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MERCK'S ARCHIVES

A JOURNAL OF

MATERIA MEDICA AND THERAPEUTICS
FOR THE GENERAL PRACTITIONER

Including a Complete and Unbiased Review of
THE WORLD'S THERAPEUTIC PROGRESS



VOLUME IV—1902

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No. 1

How Does Iron Do Good in Anemia?

FOR many centuries iron had been administered without a thought being given to the question *how* it acted, how it produced its good effects. The results were satisfactory, and that was all the doctor—and the patient—cared about. But the nineteenth century was revolutionary in every department of human activity. Skepticism reigned supreme, old prejudices and superstitions were uprooted, idols were shattered, and the most cherished beliefs had to pass through the glowing crucible of analysis and proof. It is but natural that in that overzealous period of destruction some good things were discarded and thrown into the worthless heap.

In 1878 Hamburger demonstrated by a series of painstaking experiments that *almost* all the iron—he experimented with inorganic iron—ingested could be recovered in the feces, while the increase in the urinary iron was but insignificant. He drew the perfectly just conclusion that inorganic iron is absorbed by the intestinal mucosa in but very small amounts. But other investigators went further than he and declared *ex cathedra* that inorganic iron is absolutely non-absorbable, and this opinion prevailed for some time. But—and this was a hard nut to crack—if iron could not be absorbed, how were the evident and undeniably beneficial results to be explained which almost every practitioner knew he could and did obtain with iron preparations in anemia and chlorosis? Many hypotheses were formulated, but Bunge's theory was the most

plausible and it was received with enthusiasm—we might say, it was adopted by acclamation and for a time it enjoyed almost universal acceptance. The theory may be briefly stated as follows: Inorganic iron is not absorbed; to be absorbed, iron must be in an organic combination. In anemic and chlorotic states the food iron becomes worthless, on account of the presence of sulphuretted hydrogen in the gastrointestinal canal, which converts the food iron into iron sulphide; thus rendering it inorganic and non-absorbable. When inorganic iron is administered, it combines with and fixes the free sulphuretted hydrogen, thus leaving the organic food iron a free field, to be absorbed and assimilated. *And this is the reason why inorganic iron preparations are beneficial in anemia and chlorosis.* This was Bunge's theory, and, as stated before, it enjoyed immense popularity for several years. Unfortunately for the permanency of this popularity, it had one defect, common to many other theories: namely, it was not true. The objections to the theory are many, but the principal ones are as follows: *First*, Careful investigations have shown that sulphuretted hydrogen is not present either in the stomach or in the small intestine; it is present in the large intestine, which, as we know, plays but a very insignificant part in absorption. *Second*, If the usefulness of iron depended upon its property of combining with sulphuretted hydrogen, then other metals which have an affinity for H₂S

should also prove useful in chlorosis; but this is notoriously not the case. The feces are colored black by bismuth, due to the formation of bismuth sulphide, even more than they are by iron: and still bismuth preparations are incapable of increasing the erythrocytes or hemoglobin, or of producing any specific effect in chlorosis whatsoever. This fact has been demonstrated by Stockman. The same is true of other metals having the power of combining with sulphuretted hydrogen, such as manganese, mercury, etc. They have no specific effect on chlorosis.

And in this connection we are pleased to find that our position is fully supported by the most recent clinical and experimental testimony. This editorial was practically finished when the report of M. A. Ilyasheff to the Society of Russian Physicians in St. Petersburg reached us. After most extensive and painstaking laboratory experiments and *clinical trials*, the author has reached the conclusions that compounds of copper, mercury, manganese, etc., have no appreciable influence either on the amount of hemoglobin or the number of red blood-corpuscles. Iron salts, however, under the same conditions invariably produce a marked effect both in increasing the percentage of hemoglobin and the number of red blood-cells. In his opinion, iron not only stimulates the functions of the hematopoietic organs, but aids *directly* in the production of hemoglobin. Even the eosinophile cells, which also contain iron, increase remarkably under the administration of iron. This is careful, unbiased and unimpeachable testimony. Is it all to be disregarded and thrown to the winds? *Third*, Sulphide of iron itself, a compound incapable of further combining with sulphuretted hydrogen, has been tried in chlorosis with satisfactory results. *Fourth*, chlorosis is frequently benefited by such small doses of iron, as can combine with but an insignificant amount of H_2S . *Fifth*, and last, Warfänge, of Stockholm, has succeeded in curing a number of cases of chlorosis by the subcutaneous injection of small doses of iron—a method which of course precludes any possibility of in any way influencing

the food iron. We thus see that Bunge's hypothesis, which enjoyed such great popularity and which is still held by those who have not followed up the latter-day researches, is absolutely untenable.

The theory that iron does good by its stimulating action on the gastro-intestinal mucosa, thus increasing the absorption of food, etc., is also untenable, because the cure of chlorosis has been attempted with stomachics, bitter tonics, etc., but with unsatisfactory results. An improvement is noticed at first, due to increase of the appetite; but the improvement is stationary and not progressive, and a complete cure by those means alone is an exception. At any rate, it is never so rapid and prominent as under the proper administration of iron. How, then, does iron work in the animal economy? The answer, fortunately, is very simple. It is absorbed to the greater extent by the intestinal villi, and partly also by the lymphatic vessels; being a *natural* constituent of the blood and blood-forming organs, it is *assimilated* by them *the same as any other food element*, especially so when that element is lacking. It would be going beyond the scope of an editorial to quote in detail the experiments and other research work which led up to the above conclusion; but those who really care to learn the truth more than they care to hang on to an indefensible dogma, we would refer to the work of Mackay, Kunkel, Müller, Hochhaus and Quincke, Hoffmann, Gaule, Hösslin, Swirski, Oporti and Camillo, Woltering, Gottlieb, Jaquet and last (but not least) Ilyasheff.

Reviewing the entire field of both clinical and experimental evidence, we are forced to the conclusion: *First*, that iron is a very valuable remedy in anemia and chlorosis; and, *second*, that its beneficial effects are to be explained by its direct absorption and assimilation.

In no department of science are differences of opinion so permissible as in that of therapeutics, and we have the highest respect for those who differ from us on the subject of iron therapy. But we believe that a careful study of all the clinical and experimental data on hand would convert them to our way of thinking.

[Written for MERCK'S ARCHIVES]

THE MODERN USE OF DRUGS IN THE TREATMENT OF BRONCHIAL AND PULMONARY DISEASES

By H. Edwin Lewis, M.D., Burlington, Vt.

IN the modern treatment of diseases affecting the respiratory organs, remedies are administered for the purpose of obtaining one or more of the following results: (1) The relief of pain, cough, or dyspnea; (2) the removal of local, reflex or systemic causes; (3) the prevention and treatment of complications; (4) the restoration of normal conditions.

There can be no arbitrary division of the drugs used to achieve these results, however, for the reason that most drugs have a diversity of action, and while accomplishing the object for which they are especially administered they may still exert other and important influences. Thus, in treating a reflex cough which has by constant irritation of the laryngeal and bronchial mucous membrane produced a well-defined subacute bronchitis, with considerable pain and some expectoration, the administration of simple antispasmodic treatment is frequently followed by rapid and complete recovery. In such cases, the relief of a symptom is in reality the removal of a cause. Again, in cases of chronic bronchitis, or asthma due to the uric-acid diathesis, the proper use of antirheumatic remedies promptly brings about a cure, with complete cessation of the distressing symptoms characteristic of either disease.

And so it is. Remedies which remove the cause many times give prompt relief from pain, cough and dyspnea; while remedies which relieve symptoms frequently allay just enough of contributing factors to permit normal processes of repair to overcome pathologic conditions.

But while all drugs used in the treatment of bronchial and pulmonary affections are in a measure synergistic, and may frequently prove dualistic in their action, for convenience they may be classified and considered according to their relation to the indications designated at the beginning of this article.

THE RELIEF OF PAIN, COUGH OR DYSPNEA

Pain.—For relieving pain, opium and its alkaloids easily stand first among the anodynes. The coal-tar products have been pushed to the front as analgesics during the past few years, but valuable as they are in certain conditions they cannot supplant opium and its alkaloids in the treatment of

diseases of the lungs and bronchi. Dover's powder, old as it is, still meets many demands, and given in 2½-grn. doses every one or two hours is often an efficient means of relieving the pain that accompanies many respiratory diseases, particularly those characterized by harsh, dry cough.

For all-round use, codeine is the best pain-reliever at the command of the profession. It is prompt and certain in its action, and has the added virtue of possessing to a much lesser degree the disagreeable tendencies of both opium and morphine. In ¼-grain doses it can be given every two hours or oftener, and its prompt influence as an analgesic, minus the extreme nausea and constipation produced by morphine, makes it a highly satisfactory drug. There is only one indication for which it is not superior to morphine, and that is for relieving the excruciating pain that is so prominent a symptom in the initial stage of pleurisy. Here morphine is absolutely necessary and for obvious reasons should be administered hypodermically.

Heroin, the diacetic acid ester of morphine, possesses some analgesic properties, but in a careful study of its anodyne influence on a large number of cases, I am convinced that it is decidedly inferior in this respect to codeine.

Cough.—For cough of all kinds and from all causes, heroin is almost a specific. Like the other derivatives of opium, heroin relieves cough both by obtunding the sensory end-organs in the air-passages and by checking irritating secretions. Constipation seldom follows its use, and given in appropriate doses digestive disturbances and nausea are rarely produced. In some few instances heroin exerts a decidedly soporific influence, and I have one case, a young lady, who cannot keep awake after taking a ¼-grn. tablet.

Dosage in many instances is highly important in getting the best results from heroin. It is far better to give a small dose, say ⅛-grn., and repeat it often, than to give larger doses at longer intervals: ⅛-grn. every hour until relief is obtained gives perfectly satisfactory results, and obviates any possible danger of depressing a cough too suddenly. It should be remembered that coughing is to a certain extent a physiologic process. Primarily it is Nature's method of throwing off pathologic products which act as foreign material and by mechanical obstruction interfere with the respiratory function. All therapeutic efforts, therefore, should facilitate this process or make it unnecessary by decreasing the formation of obstructive material, and when

at any time it becomes necessary to relieve the spasmodic and painful character of cough, the measures employed should aim to aid rather than interfere with the salutary function of expelling excessive and harmful secretions that have already formed.

In this connection it may be well to repeat the well-known fact that extreme care should be used in administering powerful cough sedatives to very young or very old patients. The nerve endings in their bronchial mucous membranes are much less sensitive to stimuli, and as a consequence there is much more danger of depressing cough to the extent of actual harm. When too great depression occurs, abnormal secretions are retained instead of being expelled, and the patient is literally drowned in his own secretions.

Another remedy which has proved highly valuable in all varieties of cough is dionin, or ethyl-morphine hydrochlorate. It is given in doses of $\frac{1}{4}$ to $\frac{1}{2}$ grn., and has a pronounced effect in quieting the cough and at the same time in stimulating and not suppressing expectoration. It is much milder in its effect than morphine or heroin, but it is remarkably free from any toxic or deleterious after-effects. In treating coughs in children, dionin is an especially eligible drug and in whooping-cough it will be found one of the best and safest cough-sedatives at our command.

Dyspnea.—Dyspnea is a symptom that frequently accompanies diseases of the air-passages, and while rarely serious enough to cause death, is yet sufficiently alarming and disagreeable to the patient to warrant prompt measures for relief. The remedies serviceable for relieving dyspnea depend entirely on the cause. When the condition is due to the obstruction presented by excessive or tenacious secretions, measures must be employed that will decrease them and facilitate the discharge of those that have already formed. Ammonium chloride is one of the most useful drugs for relieving difficult breathing due to tenacious secretions. In the form of a vapor, if the term is allowable, it gives excellent results in treating dyspnea occurring in children. This so-called vapor can be produced by bringing the fumes of hydrochloric acid and ammonia in contact with each other in some convenient way. If the room is small in which this is done, a sufficient quantity of ammonium chloride is formed and inhaled with the air to produce a very decided expectorant action. A fine laryngeal spray of a warm 5-per-cent. solution of ammonium chloride may also give satisfactory results. But for general utility the internal adminis-

tration of ammonium chloride meets every demand, and exhibited with heroin the drug is especially prompt and efficient.

Apomorphine hydrochlorate is warmly recommended by some writers and in small doses, $\frac{1}{24}$ grn., it occasionally gives marked relief.

Dyspnea due to congestion of the lung substance, thus diminishing the air space, calls first of all for remedies that will stimulate the pulmonic circulation. The carbonate, salicylate or iodide of ammonium are especially indicated, and the carbonate merits particular attention. The heart is unduly taxed by the damming of the blood in the lungs, and consequently must be fortified against fatigue, or assisted in the work it has to do, by appropriate medication. In a sthenic patient with a strong heart and increased tension, nitroglycerin will usually give prompt relief. The resultant decrease of tension and a corresponding dilatation of the distal blood-vessels exert a derivative action on the pulmonic congestion and the heart is thus better enabled to perform its work.

For actual heart fatigue the cardiac tonics and stimulants are indicated. Digitalis has many supporters, but it has been my experience that it is useless in a febrile condition. Why this is so, I am not prepared to say, but I know that it is frequently a fact. Other observers have noticed the same thing, and it would seem that fever is a possible contra-indication for the administration of digitalis. Strychnine and caffeine, preferably in combination, have been much more serviceable in my hands. Strychnine is a remarkable tonic stimulant to the heart muscle, and caffeine, "the quinine of the heart," as it has been called, assists in maintaining the tonicity that is so promptly established by strychnine.

In addition to trying to increase the air space by lessening the vascular derangement in the lung, it becomes urgent many times to increase the relative value of what air space actually remains. This can be done by increasing the quantity of oxygen in the air that reaches the available respiratory surface of the lungs. This concentration of oxygen, however, should not be overdone. The use of pure oxygen is unwise and, according to the experiments of Lorrain Smith, may positively prove harmful. To produce the best effect on a patient's whole economy, the oxygen should never exceed 50 per cent. of the air breathed. A greater percentage of oxygen tends to produce changes in the respiratory mucous membrane that defeat the very object for which it is administered. An excellent method for

the administration of oxygen is the following: A small-topped canopy, 3 or 4 feet square, should be made, with a shawl or ordinary cotton sheet around and over a patient's head; into this inclosure the oxygen should be allowed to escape more or less continuously, according to the exigencies of the case, and the rapid diffusion of the gas will prevent over-concentration. This method is wiser and far more valuable than the old way of directly introducing the pure gas through the mouth or nostrils.

Difficult breathing due to spasm of the muscles of respiration, or to spasmodic contraction of the muscular coat of the smaller bronchial tubes, is relieved immediately by a hypodermic of morphine sulphate, $\frac{1}{4}$ grn., and nitroglycerin, $\frac{1}{50}$ grn. Atropine, $\frac{1}{150}$ grn., can frequently be added to this combination with marked advantage. Where the spasmodic condition is less severe but prolonged over a longer period, hyoscyamine in small repeated doses is an extremely valuable drug.

The value of emetics for relieving the dyspnea of respiratory disease occurring in children is well known. Their virtue rests on the mechanical aid which they give to the expulsion of accumulated secretions, on the degree of relaxation produced, on the forced inspiration of air which emesis induces, and to a certain extent on stimulation of the respiratory mucous membrane. In adults, but not in children, the act of coughing is voluntary. The respiratory muscles, including the diaphragm, of a grown person are subject to volitional impulses, and by special effort secretions can be raised from the air passages and expectorated. This, of course, a child cannot do. Therefore, while emetics are often absolutely necessary in childhood, in adult life they are seldom needed except in those rare instances where there is a paralysis of the muscles of respiration.

THE REMOVAL OF LOCAL, REFLEX OR SYSTEMIC CAUSES

The consideration of remedies useful for the removal of local, reflex or systemic causes brings us up to a broader and less definite field of therapeutics. To apply remedies scientifically for the removal of a cause, requires that the latter should be recognized. The multiplicity of factors that enter into the causation of respiratory disease frequently makes determination of the principal and direct cause a matter of fine discrimination. To be sure, contributing or secondary causes must be given due attention also, and when the disagreeable symptoms, pain, cough, and dyspnea have been relieved, we must bend our energies toward

the removal of not one but all the factors that produce or contribute to the pathologic condition. But there is usually some one local, reflex or systemic cause that is directly responsible for the occurrence and continuation of respiratory disease, and because of its importance in a therapeutic sense it should be accurately determined.

The Removal of Local Causes.—Local causes in the majority of instances are inflammatory in character, and to accomplish their removal measures are required that will arrest or modify the inflammatory process. In those occasional cases of respiratory disease occurring in miners, stone-cutters, tool-grinders, or those who work in dust-laden atmospheres, where the symptoms are due to the mechanical irritation of foreign substances, it is obvious that cure depends on prevention rather than treatment.

Where the pathologic condition is limited to the bronchial tubes the expectorants are indicated, and by their action on the bronchial mucous membrane the object sought is accomplished.

In the early stages of acute inflammations of the bronchial mucous membrane, remedies which depress the pulmonic circulation and so act as derivatives are of most service. In this class are the sedative expectorants apomorphine, ipecac, belladonna, and the arterial sedatives aconitine and veratrine. These drugs are frequently useful in modifying the severity and extent of the inflammatory process, but their abortifacient properties should not be overrated.

In the more advanced stages of bronchial inflammations agents which change, disinfect, and diminish abnormal secretions become necessary. This is done by the stimulating expectorants ammonium chloride, sanguinarine nitrate, and the balsamic preparations like tar, tolu, terebene, turpentine and terpin hydrate. Where the secretions are particularly purulent from the presence of pyogenic or saprogenic organisms, the drugs that possess greater potency as bronchial antiseptics and disinfectants should be used. These include creosote, guaiacol, carbolic acid, eucalyptol, methylene blue, and the like. These drugs affect the pulmonic circulation to a slight degree, but the fact that they are eliminated in part by the bronchial mucous membrane gives them particular value as respiratory germicides.

Guaiacol and creosote as such are not used so often nowadays because of the digestive disturbance and repulsion which they sooner or later produce. Guaiacol has been largely superseded by its newer prepa-

rations—thiocol (the guaiacol-sulphonate of potassium); duotal, its carbonate, and geosote, its valerianate; while creosote has been superseded to a great extent by creosote carbonate and creosote valerianate. These new products have been found to be quite as potent as the original forms of creosote and guaiacol, if not more so, and certainly they produce much less derangement of the digestive apparatus. Their use in tuberculosis is well known, and while varying opinions exist as to their curative influence, there is no question but what they are valuable adjuvants to other forms of treatment. Their use in pneumonia has been recently brought forward by several enthusiastic writers, who claim for them a specific antiseptic influence on the diplococcus pneumoniae. My experience with creosote in the treatment of pneumonia, while limited, is yet of a character to warrant my using it further for routine medication in this disease.

The local application of antiseptic remedies by inhalation of their vapors gives good results in many instances. Medicated steam is particularly serviceable in this respect, and a convenient formula and method of administration is the following:

| | | |
|-----------------------|-----------|------|
| Camphor | 20 | grn. |
| Menthol | 20 | grn. |
| Eucalyptol | 2 | dr. |
| Tinct. Cinnamon | 4 | dr. |
| Albolene | to make 2 | oz. |

Ten drops on a pint of boiling water, and inhale vapor.

In chronic conditions, where the secretions are especially purulent, stronger antiseptics are necessary, and the following is a particularly valuable formula:

| | | |
|---------------------------|-----------|-----|
| Comp. Tinct. Iodine | 1 | oz. |
| Tinct. Tolu | 4 | dr. |
| Tinct. Cinnamon | 2 | dr. |
| Carbolic Acid | 1 | dr. |
| Chloroform | 1 | dr. |
| Alcohol | to make 4 | oz. |

Put in an 8-oz. bottle, through the cork of which two glass tubes are run, one only reaching into the liquid. Inhale by drawing through tube that *does not* reach the liquid.

Before leaving the subdivision of my subject which has to do with the removal of causes, I want to refer to the recent recommendation of sodium cinnamate and cinnamic acid for the treatment of certain chronic diseases of the respiratory organs, notably pulmonary tuberculosis. Landerer is the principal advocate of their use, and after fifteen years' experience with them he is more enthusiastic than ever. In his published articles he claims that these drugs produce a local leucocytosis around the morbid process that physiologically destroys the pathogenic organism. Fibrosis ensues and,

as nearly as possible, the walling-off process which we know takes place in the lung when tuberculosis is spontaneously cured, is duplicated. The theory is an alluring one, and several other observers have declared themselves believers in its feasibility. After careful use of sodium cinnamate in several cases of pulmonary tuberculosis, I must confess that the drug is as disappointing to me as all other "specifics" have proven in the treatment of this terrible disease. In not one out of nine cases of phthisis in which I have administered sodium cinnamate hypodermically and per os have I observed a particle of improvement that could be attributed to the drug.

Removal of Reflex Causes.—The removal of reflex causes in the majority of instances belongs to the domain of surgery. Therefore, causes like nasal hypertrophies, spurs, polypi, adenoids, elongated uvulae, enlarged tonsils, enlarged cervical and bronchial glands, tumors, etc., which indirectly produce pathologic conditions in the bronchial tubes, cannot properly be considered in this article. But diseases of the heart, stomach, liver, and generative organs that are amenable to medical treatment, are frequently factors that must be dealt with in the correction of diseases of the air-passages. It is certainly surprising to observe under some circumstances the prompt and perfect relief from cough, dyspnea, and other symptoms referable to the respiratory organs, that follows wise and efficient treatment of chronic gastric catarrh, or certain diseases of the heart. Chronic valvular disease of the heart is one of the principal causes of chronic bronchitis, and treatment directed toward the production or maintenance of adequate cardiac compensation, frequently exerts a very happy controlling influence over the bronchial symptoms.

Systemic Causes.—In considering general causes, the most important is the rheumatic diathesis. It is comparatively of recent date that the influence of uric acid has been recognized in producing pathologic conditions of mucous membranes in general, but particularly that of the respiratory organs. Latter-day study and observation has shown, however, that unexcreted uric acid and its salts are very prolific factors in not only increasing susceptibility to diseases of the respiratory tract, but in some instances that they are a direct cause. Therefore, the presence of uricacidemia in acute and chronic inflammations of the air-passages necessitates vigorous antirheumatic treatment for the removal of this highly important cause. No argument is necessary in asserting that the alkalies and the salicylates

are the most reliable uric-acid solvents. Colchicine is of frequent service, but caution should be used in administering it to aged people.

Other systemic causes like syphilis, anemia, malaria, alcoholism, etc., require appropriate treatment according to the particular condition present. Constipation is a systemic as well as a reflex cause of respiratory disease and should invariably receive attention. Because of its importance, the condition of the bowels should always be interrogated, and slight stimulation of the intestinal canal with small doses of calomel will be found a wise preliminary to all forms of treatment of the respiratory diseases.

THE PREVENTION AND TREATMENT OF COMPLICATIONS

The prevention and treatment of complications occurring in the course of diseases of the lungs or bronchi depend entirely on the pathologic condition, the individual case, and the course and tendencies of the particular disease under observation.

THE RESTORATION OF NORMAL CONDITIONS

This is one of the most important indications for medical treatment. The cessation of the symptoms of any disease of the lungs or bronchi does not necessarily constitute a complete cure. After any affection of these parts the cellular structure is invariably left for a longer or shorter period in a condition of lowered vitality. There may be a very evident attempt on the part of tissues in the respiratory organs to return to normal conditions, and in many patients there is ultimately a complete restoration of function and vitality. But there is a stage of convalescence immediately following diseases of the respiratory organs during which the restorative process is taking place, and in this regenerative period there always exists more or less susceptibility to relapses from the same, or attacks of other diseases. It is at this more than any other time, therefore, that medication should aim to assist the restorative efforts of the organism, and thus hasten the processes of recuperation.

Diseases of the respiratory apparatus are local in their expression but systemic in their effects. Consequently the local pathologic process always exists at the expense of the whole body. Restorative measures in the main, therefore, should be systemic and general, since the local condition is better improved by stimulation of physiologic processes than by the effect of drugs that act in a purely local way. Strychnine and arsenic are our best reconstructives and should be used as long as a single symptom or sign of debility remains. Strychnine

should be given in larger doses than are ordinarily administered, and a convenient method is the use of the following:

Strychninae Sulphate..... 1½ grn.

Water..... 1 oz,

Begin with 5 drops three times a day and increase a drop each day.

Arsenic in some potent form can be given at the same time with very satisfactory results. Sodium cacodylate, the dimethyl-arsenate of soda, has proven remarkably efficient in my hands, and I esteem the drug highly as an excellent tissue-builder and reconstructive. It stimulates the physiologic regeneration of cellular tissue to a marked extent and can be given in relatively larger doses without toxic effect than any other form of arsenic. The peculiar garlic-like odor which it gives to the breath is its only objectionable feature. It can be administered in ¼- to 1-grn. pills three times a day, or in a solution permitting graduated dosage. In ulcerative or gangrenous conditions of the respiratory organs sodium cacodylate is contra-indicated.

Iron in readily assimilable form is frequently valuable in protracted convalescences, but its need should be determined by a careful blood examination. Quinine is also useful in small doses, 1 to 2 grn. three times a day. The glycerinophosphates of lime and soda are remarkably efficient in many cases, and for their restorative action deserve strong commendation. The nervous element must be reckoned with many times in hastening convalescence and in such instances the glycerinophosphates are of especial use and value. Cod-liver oil, when it can be well borne, is one of our best reconstructives, and since it possesses some alterative properties it has marked value in chronic processes and delayed recoveries from bronchial and pulmonary affections. Petroleum preparations are also serviceable, but I question if they are superior to cod-liver oil except in taste and possibly digestibility.

In conclusion, I wish to state that no hard and fast rule can regulate the administration of drugs or remedies in the treatment of respiratory diseases. Each case must be studied and treated according to the individual expression of the particular disease under observation. Routine medication, except in rare instances, is a confession of weakness or laziness on the part of the practitioner, and the highest success in the therapeutic application of remedies to disease can never follow such methods. These facts are so evident that further argument is unnecessary.

51 North Union Street.

[Translated and condensed for MERCK'S ARCHIVES]

THE TREATMENT OF CHRONIC ULCERS OF THE LEG

By Dr. S. Jessner¹

CHRONIC leg-ulcers belong to the most rebellious, persistent, and trying affections. The usual characteristic of such diseases—namely, the innumerable remedies recommended—is also met with in this one. Scarcely a single external medicament has been omitted in the long list of ever-recurring “specifics” for leg-ulcers. The lesson this teaches is, that no one remedy is suitable in all cases, but each individual patient must be carefully studied and the ulcer treated according to its particular characteristics.

It is important to consider the etiological bearings of leg-ulcers before discussing their management. The first and chief factor in the causation of these ulcers is venous stasis, which leads to impaired nutrition of the skin, favors tissue-breakdown, and prevents the formation of new epithelial covering. The adjacent skin generally shows the phenomena of dermatitis or eczema. This etiological element is of the greatest significance, all others being only subordinate to the venous stasis, which makes the leg a point of least resistance and favors the noxious action of various other factors.

Among these secondary causes, trauma may be mentioned first. A slight injury to the leg of a person affected with stasis easily leads to a breakdown of the impoverished tissues and an ulcer is thus readily formed. Micro-organisms breed in the fruitful soil, aggravate the wound, prevent healing, and often precipitate serious complications, as phlebitis, lymphangitis, and erysipelas. The latter, especially, shows a tendency to recur and become habitual, leaving the skin edematous and hypertrophied, and finally sometimes ending in the production of elephantiasis.

The traumatic lesion which is the origin of so much trouble need not even be severe. A scratching finger is often instrumental in producing an ulcer, and scratching is the natural result of the active itching, which tortures the sufferer from varicose veins and other forms of stasis.

Next in the list to these local traumatic elements stands syphilis.

Leg-ulcers are very frequently manifestations of the later phases of syphilis. This local phenomenon is often unaccompanied by any constitutional symptoms of the dis-

case, and the diagnosis thus becomes all the more difficult. Other constitutional diseases favoring the formation of ulcers are diabetes, arteriosclerosis, and the scrofulous diathesis. Pregnancy, cardiac affections, pulmonary emphysema, by leading to venous congestion, also predispose to leg ulceration.

These etiological data require careful consideration in the general treatment of the affection. Naturally, the slightest suspicion of syphilis indicates a course of iodides, as potassium iodide in daily doses of $\frac{1}{2}$ to 1 dr. Mercury may be administered to accelerate healing, if the case proves to be of luetic origin. In other varieties of ulcers, these antisymphilitic measures are scarcely of any avail. Rest, on the other hand, is of the highest value in all forms of the affection, and should be enforced as much as possible.

As to local treatment in the poorer classes, it has to fulfil several requirements. The patient must be able to be on his feet and attend to his work while undergoing the cure, and not compelled to visit the physician daily. Moreover, the expense of the method must be a moderate one. Now, there are two principal indications for our therapeutic procedures: (1) the direct treatment of the ulcer, and (2) the prevention or relief of the stasis.

The author abstains from a critical survey of the numerous methods of treatment in use, and simply details the one which has in his hands given the most satisfactory result. It is in the main Unna's treatment by means of dressings with zinc gelatin, modified by the author to meet several practical requisites. There are four points to be considered in this method: (1) Cleansing of the leg; (2) the application of remedies called for by the condition of the ulcer and its surroundings; (3) the application of the zinc gelatin; (4) bandaging the leg.

The leg is cleansed by washing the skin with warm water and soap. If the remnants of ointments or plasters are present, they may be removed with a piece of cotton soaked in benzine. This is followed by alcohol (50 to 60 per cent. strength), used in the same manner. No brushes, no carbolic acid or sublimate are permissible. If antiseptics are urgently required, lysol, $\frac{1}{2}$ to 1 per cent., creolin in the same concentration, or Burrow's solution of aluminium acetate may be cautiously applied.

The region of the leg being cleansed, appropriate remedies may now be applied. If the granulations are sluggish, stimulating agents will be indicated. Heat is one of the best, and may be employed in the form of very hot irrigations or wet dressings. Of

¹ Jessner's "Dermatologische Vorträge für Praktiker," No. 7.

medicaments, iodoform ranks first as a stimulating agent. A pinch of the powder is to be dusted on the ulcer and will suffice for days. Sometimes the drug causes a severe dermatitis and must be discarded. Numerous substitutes have been recommended. The author speaks favorably of iodoformogen, a yellow, odorless powder, which is free from the well-known drawbacks of iodoform.

Good results were also obtained with ichthoform, a black powder, which is a compound of ichthyol and formaldehyde. It checks the secretion, stimulates the granulations, and is well tolerated. It is therefore indicated in cases with abundant secretion. Another excellent stimulant to granulations is tincture of iodine, which may be applied to the cleansed ulcer before dusting on the powders mentioned. Whenever the granulations are luxuriant, astringent and caustic agents are indicated.

Bismuth subnitrate, pure or mixed with boric acid, talcum, etc., is very valuable in this connection, as are also airol, xeroform, and bismuth subgallate. Excessive granulations may be removed with a knife or curette, and the surface then cauterized with silver nitrate in 10-per-cent. solution, to be followed by one of the powders just enumerated.

In all cases the author covers the ulcer with a piece of oiled silk, after treating the wound as described above.

Gangrenous ulcers require antiseptic irrigations with a hot solution of creolin (2 per cent.) or potassium permanganate (1 per cent.), removal of the necrotic tissue with a curette, and a subsequent dressing with iodoform. Finely powdered calomel is also suitable, and does well especially in syphilitic ulcers. Croupous or diphtheritic ulcers are best cauterized with concentrated carbolic acid.

For painful ulcers a cocaine solution (5 to 10 per cent.) may be painted on, but gives only transient relief. An excellent remedy in such cases is orthoform, used as a dusting powder, with due consideration of a possible idiosyncrasy of the patient towards the drug.

The ulcer being covered with oiled silk after the applications are made, the surrounding tissue now requires our attention. Eczema is often seen around an ulcer, and may be treated with zinc oxide and olive oil, equal parts, or a salve like:

Ichthyol..... 10 min.
Zinc Oxide..... 3 dr.
Starch..... 3 dr.
Petrolatum..... to make 2 oz.

Where ointments are not well borne,

dusting powders, such as the following, may be employed:

Zinc Oxide..... 2 dr.
Talcum..... 2 dr.
Starch..... 2 dr.
Boric Acid..... 48 grn.

Bismuth subnitrate, either pure or mixed with talcum (1:2), is very efficient; or a mixture of bismuth subnitrate with water may be prescribed, to be applied after shaking well. The water soon evaporates, leaving the powder on the wound.

Bismuth Subnitrate..... 2½ dr.
Zinc Oxide..... 2½ dr.
Talcum..... 2½ dr.
Glycerin..... 2½ dr.
Lead Water..... to make 3½ oz.

A powder of tannoform often acts well:

Tannoform..... 1 dr.
Zinc Oxide..... 2½ dr.
Starch..... 2½ dr.
Petrolatum..... to make 2 oz.

When the eczema is dry, squamous, infiltrated, tarry preparations are indicated:

Oil Cade..... 2½ dr.
Oil Birch..... 2½ dr.
Alcohol..... 2½ dr.
Ether..... 2½ dr.

Or Wilkinson's ointment may be thickly applied.

Having thus treated the ulcer and its surroundings, the former is covered with oiled silk and a few layers of gauze are placed next, followed in turn by cotton.

We have now to consider the important question of overcoming the venous stasis.

This indication is best met by energetic and uniform compression, and the use of zinc gelatin accomplishes this purpose admirably. The formula is:

Zinc Oxide..... 2 oz.
White Gelatin..... 5 dr.
Glycerin..... 6 dr.
Distilled Water..... 2½ oz.

This is prepared in a water-bath, and allowed to cool afterwards. Before use it is again liquefied by placing the vessel in warm water. The zinc gelatin is now thickly applied to the whole leg, from knee to foot, including the heel, but leaving the ulcer free. A starch gauze bandage is then applied, and followed by an ordinary bandage. The bandaging must be firm and uniform. This dressing should be changed according to the degree of secretion and pain. In the beginning a change is often desirable after the first few days. Later on, an interval of a week at least should be allowed to elapse. The duration of the treatment varies naturally within wide limits. For the after-treatment, a well-fitting elastic stocking is recommended by the author.

Like every other method, the one detailed has its contra-indications. Inflammatory

conditions, as erysipelas, phlebitis, lymphangitis, extensive eczema, furuncles, render the method as described above inapplicable; but only for a time. A course of preparatory treatment to remove or alleviate the above conditions may be necessary; and then the leg is ready for the treatment outlined in this paper. There are but few, and these very old and neglected, cases in which other measures, such as ligation of the saphenous vein, excision, grafting, etc., may become necessary.

[Contributed to MERCK'S ARCHIVES]

THERAPEUTIC NOTES ON APOMORPHINE, CHLORETONE, SALICIN, STYPTICIN, AND PROTARGOL¹

By E. S. Beadles, M.D., San Diego, Cal.

IT is not my purpose to present for your consideration a paper on scientific therapy, or a review of therapeutic progress, but only a few points in practical therapy, derived to some extent from practical experience with a few old and new remedies alike. Indeed, it would require a small volume to give a detailed account of remedies introduced in the past year—of which there are about one hundred and thirty.

Of most importance to the physician, in the selection of his therapeutic agents, is, first, to succeed in obtaining a remedy based upon physiological action, and, second, uniform in strength and in effect. Unfortunately, some of our most useful remedies, even when obtained in pure form, are not uniform in action; however, this is being overcome by improved methods in chemical laboratories and the applied physiological tests before distribution.

It is remarkable how we may, by accident, discover in an old drug a new therapeutic quality.

Apomorphine.—In apomorphine we have such a remedy, for until within the past year it has only been regarded as an emetic, principally used hypodermically, though often combined in cough mixtures as an expectorant. In a report by Dr. C. J. Douglass, in MERCK'S ARCHIVES (June, 1900) we have its value as a hypnotic demonstrated by its administration to a number of patients, in whom insomnia was a predominant feature. The usual dose for hypnosis is $\frac{1}{30}$ grn., hypodermically. My experience with the drug in a limited number of cases has been highly satisfactory. Its employment, first in an asthmatic, was met with most decidedly beneficial effects, the paroxysm having been aborted and sound refreshing sleep,

which lasted for about eight hours, following within ten minutes after its administration. The dose was $\frac{1}{30}$ grn., hypodermically. The only disagreeable symptom was slight nausea and a temporary cerebral excitation, lasting for a few seconds. This patient was up and around next morning, and walked two or three miles after eating a hearty breakfast. The attack was completely broken and there were absolutely no after-effects—a vastly different state than that which followed morphine hypodermically, as this had always been followed by the usual nausea, headache, and constipation.

In cases of hysteria, the prompt antispasmodic and soporific effect makes apomorphine a most efficient remedy—the very best at our command. In acute alcoholism, with maniacal excitement, the effect is at once pronounced, and although the patient be up and around, it will cause him to immediately assume the recumbent position, sleep ensuing in spite of himself. I deem it the most reliable and safest remedy in asthma and other diseases attended by paroxysmal conditions. It does not produce constipation, there is no tendency to acquire habit, and it may therefore be safely left in the hands of the patient. In combination with strychnine, where cardiac weakness exists, the good effects are somewhat enhanced. In some cases $\frac{1}{30}$ grn. will be too large a dose, while few cases will be found to tolerate a larger dose.

Chloretone.—Another drug recently introduced to the profession is chloretone, formed through the interaction of chloroform, acetone and an alkali. It occurs as a white crystalline compound, having a camphoraceous odor and taste, sparingly soluble in warm water. It is both hypnotic and anesthetic, and is said to affect neither the heart nor respiratory center. Having occasion to take a hypnotic one night myself, 12 grn. of chloretone were taken upon an empty stomach, with the following manifestations: a gradual sense of drowsiness, within twenty minutes, a general heaviness of the limbs, sensation of slow heart's action, difficulty of breathing, with a desire to bring into action the extraordinary muscles of respiration, fullness in the head, with tendency to pass into profound sleep; but the moment unconsciousness was gained, a sense of suffocation, as though air failed to enter the lungs, would bring me around to a wakeful period lasting a few seconds, and then a repetition of the slumbering period—then waking, and so on, for about one hour, when I seemed for the first time to free myself from the powerful influence of the drug. From literature on the

¹ Read before the San Diego County Medical Society.

drug, I am sure these are unusual manifestations, though I have not been tempted to satisfy myself further of its action, personally. However, I am inclined to the belief that there exists a peculiar susceptibility, and that in many cases the drug will prove a most excellent hypnotic, entirely safe.

In gastric carcinoma the effects of chloretone administered in powder or capsule and followed by a draught of warm water are good, as an anesthetic, analgesic, antiseptic, and hypnotic. Preceding the administration of an anesthetic, it prevents vomiting in a large majority of cases, and should be given in powder or capsule and followed by hot water. I have been most pleased with its effects in cases of rhinitis, using a saturated solution in an atomizer. It frees the nasal cavities of mucus, is antiseptic, and slightly anesthetic. In beginning coryza it is useful as a local remedy and will often abort an impending attack. In combination with suprarenal capsule extract, we have a most valuable remedy in hypertrophic rhinitis and hay-fever. In this you combine a mild, antiseptic anesthetic with a powerful hemostatic and astringent. Its use is extolled in vomiting of pregnancy, in cystitis by irrigation, and as an inhalant in bronchitis. In 10-per-cent. ointment it is useful in rhinitis of the dry form and in painful hemorrhoids, fissures of the anus, nipples, and in burns. I have not found its local anesthetic power sufficient to justify its employment hypodermically to any extent—in fact, in my hands it has failed almost completely to produce more than a slight anesthesia, hypodermically.

It may be stated that the chief use of chloretone is as a hypnotic, but I am sure its administration should be attended with caution, and not continued indefinitely, as the drug has not been found, I believe, in any of the excretions, and is, presumably, consumed in the system. So in its administration it is well to discontinue its use at intervals, as well as to lessen the dose during a short period of administration if an effect be observed lasting over the sleeping hours. Unquestionably any drug so powerful for good must, likewise, possess much power for evil. Chloretone is contra-indicated in central respiratory affections, and in gastric paresis, either from dilatation or central motor enfeeblement.

Salicin.—The next drug which seems to me to possess a great deal of practical significance is salicin, not on account of any new therapeutic application, but because of the splendid results so often obtained from its administration in acute rheumatism in

extremely large doses. My attention was called to its value in an interesting article embodying the clinical reports of some forty cases about three years ago. (I regret having lost the journal containing the reports and the author's name as well.) I have found a number of cases reported by MacLagan in his contribution to the "Twentieth Century Practice of Medicine." Of course there have been many theories advanced as to the etiology of rheumatism, and more forms of treatment instituted based upon these several theories; but the most generally accepted theory, that rheumatism is of parasitic origin, now obtains—the lactic acid theory having returned to its subordinate place as a symptom and not a chief etiological factor. The neurotic theory has also been exploded, and it is often remarkable how little the nervous system suffers, taking into account the amount of pain endured and the general undertone of the patient. Then the malarial theory became untenable because rheumatism occurs where there is no malaria, and is not particularly affected by the cinchona preparations. But it was perhaps due to investigations along the line of its malarial origin that led to the now pretty firmly established theory of its parasitic origin; for there is a great similarity, often, between malarial fever and rheumatism, especially regarding the exacerbations of temperature. Therefore, a comparison of the cycle of development of the plasmodium of malaria to a similar process in rheumatic patients has given ineptness to the parasitic theory, and the therapeutic application of salicin to rheumatism with almost the same expectations that are realized when quinine is given to malarial patients.

As I have often found in pernicious malaria that homeopathic doses of quinine are not only not beneficial, but harmful, by increasing the nervous tension and not combating the poison, so it is with salicin. It must be given in *large doses*, 10 to 30 grm. every hour or two, according to the age, size, and general condition of the patient until there is perceptible abatement of the symptoms, such as diminution of pain, lowering of temperature and pulse rate. This enormous dosage of from 120 to 480 grm. within twenty-four hours may be followed by a lengthening of the interval as the symptoms subside, but at no time should the treatment be suspended until the patient is entirely free from the slightest symptom, and then it is best to administer it in small doses three or four times daily over a period of several weeks, to prevent a relapse, or chronicity. I regret that I have not clinical records of cases in support of the faith that is in me; suffice it to say that in uncompli-

cated rheumatism I have not once been disappointed in salicin thus administered, although other measures directed to the promotion of secretion and excretion are not to be neglected.

In conclusion, I will add that in the chronic variety of rheumatism, we may expect most satisfactory results from salicin when combined with massage and general dietetic and hygienic treatment, and when given to the full physiological limit for a time, and subsequently in smaller doses. Most stomachs bear salicin well, and, contrary to most drugs, it may be administered almost indefinitely in our warfare on parasites without injuring the healthy tissues.

Salicin unquestionably possesses an advantage over the salicylates in not being so great a cardiac depressant. In case we should find the stomach of a rheumatic patient oversensitive, enemas of sodium salicylate with small doses of opium may serve a good purpose until a retention of the large doses of salicin justifies its administration. And in this connection, I might mention the good obtained by painting the joints with methyl salicylate and covering with some impervious material. Salicylic acid is absorbed by the skin and may be detected in the urine.

Stypticin, or cotarnine hydrochlorate, is another most useful addition to our therapeutic armamentarium. It is a yellow powder, of bitter taste, and soluble in water and alcohol. Clinical reports undoubtedly place it foremost as a hemostatic in excessive flow in young women, and in hemorrhages from whatever cause, except fungous endometritis, retained placenta, and tumors. It is given in from $\frac{3}{4}$ to 4 grn., preferably in tablet form, or hypodermically if the case is urgent. Its use is not limited to uterine hemorrhages, but has been satisfactory in hemoptysis, hematuria, gastric ulcer, and, in fact, in any form of hemorrhage where it is specially desirable to influence directly the vasomotor system. Stypticin is not oxytocic; hence we may use it to decided advantage in threatened abortion, also' placenta previa, and in hemorrhages from any source during pregnancy. Topically, it is applied directly to bleeding parts in dental hemorrhages and epistaxis.

At a previous meeting of this society, in the discussion of Dr. Burnham's paper on "The Climacteric," I alluded to the drug in this connection, and I believe it will be found indispensable in properly selected cases, and I am sure it has a wider range of therapeutics than is yet accorded it, when we consider the urgent need of a safe and reliable vasoconstrictor.

Protargol was introduced by Neisser in 1897. It is a proteid silver compound, a light-yellow powder containing 8.3 per cent. of silver. In protargol we have a most trustworthy substitute for silver nitrate, to which it is superior because of its penetrating properties and its retention of germicidal powers after penetrating the sub-mucous tissues. In the treatment of chronic otorrhea, conjunctivitis, gonorrhea—and, in fact, wherever infection exists—protargol is a most valuable remedy, in solutions varying from 0.4 per cent. to 10 per cent.

As compared to the nitrate, it is unirritating and no slough results from its application. From clinical observations I am convinced of its especial value in the treatment of specific urethritis, cystitis, vaginitis, endometritis, furuncles, and abscess. A case of endometritis and subinvolution, with strong suspicion of infection, came under my care after one and a half years of almost complete invalidism. The uterus was large, tender, and prolapsed; pus fairly poured from the cervix. Palliative treatment, with boroglyceride tampons, frequent cleansing douches, and tonics directed to the general health mitigated the symptoms and improved the patient's condition; but not until the uterus was thoroughly irrigated and cleansed, and the entire endometrium was brushed over with a 10-per-cent. protargol solution, repeated every third day for two weeks, did the discharge cease entirely and the ugly, granulating cervix heal. Another case—one of specific endometritis, the microscope showing gonococci—terminated favorably and almost abruptly after the application of protargol, 30 grn. to the ounce for ten days. A number of cases of gonorrhea have, without exception, yielded nicely to protargol injections and many were aborted where the patient was seen during the first forty-eight hours of the initial symptoms. I mean by aborted the disappearance of the gonococci from the pus, though, usually, it is some two weeks before there is complete cessation of the discharge. However, I wish to say that I believe that after the acute symptoms of gonorrhea have become fully established, it is injurious to use protargol, or any other injection, until such symptoms shall have subsided.

Two points in the use of the injection should be impressed upon the patient: first, not to force the injection into the urethra; second, to retain the fluid from five to thirty minutes, the longer the better, for sufficient time should be allowed the protargol to find and disarm the foe.

A young man of about nineteen had a large tubercular abscess of the back, which

had for some time refused to heal from the bottom. A protargol solution, 5 per cent., checked the discharge of pus and promoted healing. Patient complained of slight constitutional disturbance, which may have resulted from retention of the solution. A large furuncle on my right arm, near wrist joint, after being freely incised, was packed with 10-per-cent. glycerin protargol solution. Not a drop of pus formed, although cavity was sufficient to admit the finger $\frac{3}{4}$ inch. In another instance, beginning furuncles were aborted by application of compresses of a 10-per-cent. glycerin solution.

I might add, that in the treatment of specific urethritis, after the disappearance of the gonococcus, which usually occurs within ten days, if the treatment is persevered in properly, the alternate employment of astringents is advisable. For posterior urethritis, a weaker solution may be used, generally $\frac{1}{4}$ per cent., injected through soft rubber catheter or instillation made with an Ultzmann syringe. Protargol is superior to silver nitrate in ophthalmia neonatorum, and may be applied in 10-per-cent. solution.

Other organic silver compounds, which are often used with great success in the same conditions as protargol, are largin, containing 11 per cent. of silver, and ichthargan, a combination of ichthyol and silver, containing 30 per cent. of silver.

Sefton Block.

[Written for MERCK'S ARCHIVES]

CARBOLIC ACID IN TETANUS

By J. E. Musgrave, M.D., Handley, W. Va.

Member of International Association of Railway Surgeons

THE treatment of tetanus by hypodermic injections of carbolic acid ranks with that of antitoxin in diphtheria. It transposes the very high percentage of mortality to that of recovery. It places a horrible, agonizing, and fatal disease promptly under control. In view of the recent epidemic of tetanus in St. Louis, Mo., and Camden, N. J., I think it opportune to add one case to the thirty-four cases on record treated successfully by this method, which was originated by Bacelli, the Italian clinician.

Laborer, white, was working in a barnyard—the ideal place for tetanic germs—and stepped on a nail. This was at 1 P.M. Wound, $1\frac{1}{2}$ in. deep, was swabbed out with 95 per cent. carbolic acid at 7 P.M. On third day some pus came out. Wound seemed to close, and on fifth day a little pledget of shoe sole was carried out in the pus. The wound then healed. Patient worked a week, then began to complain of soreness in back, neck, and stiffness in jaws.

At 3 A.M. of the third day of these slight symptoms, I found him in tetanic rigidity, muscles as hard as a bronze statue. Gave first $\frac{1}{4}$ grn. of morphine hypodermically to relax rigidity of muscles, which was very painful, and subsequently used morphine when indicated. I began at once to give 1.2 grn. of carbolic acid in a 2-per-cent. solution every four hours, or 7.2 grn. daily, hypodermically. The rigidity in general was lessened on the third day, but a few sharp exacerbations returned once daily. The treatment was kept up for two weeks without even cloudiness of urine or a single untoward symptoms (a few injections being missed in last week), until the patient had not the slightest symptom of lock-jaw, and was able to walk about.

The rigidity was excited by a noise, light, touch, or draught of air; sweating was profuse when pain was severe. No temperature. Rigidity in abdominal muscles was more persistent than other parts, it had the sensation of a girdle about waist. Nausea and vomiting from acute indigestion. Diet: milk, oyster soup, and crackers. Treatment is reliable, costs little, and is always at hand.

THE THERAPY OF TUBERCULOSIS¹

By Dr. T. L. Coley

THE author reviews the various agents employed in the treatment of pulmonary tuberculosis. All methods of treating this disease aim at fortifying the resisting powers of the patient. First of all in importance are the patient's digestive and assimilative organs. A diet composed of easily digested, nutritious foods, combined with appropriate medical measures intended to increase the digestive and assimilative abilities, is the desideratum. Sodium persulphate has been recommended as especially valuable in combating the anorexia so common in phthisis. Creosote and its derivatives are useful for their antiseptic action on the digestive tract, while their effect on the bacilli is probably null.

Recently, urea has been recommended as an efficient remedy. Patients should be dieted on food rich in urea, as liver, kidneys, and brain, and pure urea is given along in 20-grain doses three or four times daily, by the mouth or hypodermically. The substance seems to act in the sense of an antitoxin to the tubercle bacilli. Some think, however, that urea has no such action, and only brings about a condition of acidity. At any rate, this method is in harmony with the established fact that an antagonism exists between the arthritic

¹ *Therap. Monthly*, 1, No. 5.

(gouty) diathesis and tuberculosis. It is interesting to note that the natives of India have for centuries used the urine of the rhinoceros in lung diseases.

Of foods, raw meat is held in high esteem in the treatment of phthisis, as it is easily digested. Experimental tuberculosis in dogs has been successfully treated with raw meat. Serum has a similarly good effect, and persons who cannot tolerate raw meat may be able to take serum, 1 quart of which corresponds to about 6 pounds of meat. In advanced stages of the disease, zomotherapy is dangerous, however, and this is probably due to impaired liver-action, allowing the plasma to pass into the circulation in a raw state. Great care is, of course, necessary in obtaining meat free from tenia and tubercle.

During the zomotherapeutic treatment all other medication must be interrupted, except cod-liver oil. It is advised to continue feeding with muscle juice for at least six months after all symptoms have subsided, to be resumed at their first reappearance. As to the quantity of meat used, 16 to 32 ounces of lean steak should be pressed for a patient in the first stage, and double the quantity in the second. In the miliary form, or in the third stage, 4 to 6 pounds. These are the quantities to be consumed in twenty-four hours. The juice must be taken as soon as expressed, with a little salt or syrup of orange.

Of the newer drugs, cacodylic acid derivatives have been given an extensive trial. Arsenic forms a series of compounds with alcohol radicals, and one of them is arsen-dimethyl or cacodyl. Cacodylic acid is derived from cacodyl, and in the form of sodium cacodylate has been recently introduced in therapeutics. This latter salt is an organic compound containing about 50 per cent. of arsenic. The remedy may be used internally and subcutaneously. The chief advantage consists in the freedom from the toxic by-effects of ordinary arsenic preparations.

In tuberculosis excellent results are obtained with rectal injections of sodium cacodylate during the so-called pre-tuberculous stage. In advanced stages of the disease the drug acts less satisfactorily. The remedy is best given hypodermically, as follows:

| | |
|-----------------------------|----------|
| Pure Sodium Cacodylate..... | 2½ dr. |
| Carbolized Alcohol..... | 10 drops |
| Distilled Water..... | 3½ oz. |

This mixture is boiled a short time, made up to 3½ oz. with distilled water, and kept in a sterilized vessel.

Each cubic centimeter contains 1 grain

of cacodylic acid, which is the proper beginning dose, to be given once in twenty-four hours, and increased, if necessary, up to four times the amount. After eight to ten days the injections are interrupted. As contra-indications to this treatment should be mentioned: phthisis in the third stage, and hepatic insufficiency, the latter being an absolute contra-indication. Some consider the remedy very valuable in those predisposed to tuberculosis. In conjunction with a generous diet, and, according to Gautier, with iodine as an adjuvant, it gives good results.

During the last few years another new remedy has been introduced—cinnamic acid, or sodium cinnamate. Landerer, who has tried it in a large number of cases with excellent results, considers it to a great extent specific. The drug seems to be contra-indicated in rapid forms of tuberculosis and in the acute as well as subacute forms. During the time of infiltration and softening it may do good. The new remedy thus seems to possess a limited range of application.

More promising is the toxin treatment of tuberculosis. The profession is gradually returning to the use of certain preparations belonging to this class, especially tuberculin and tuberculin-R. The efforts of Koch and others have evidently succeeded in restoring some of the lost confidence in the method.

Tuberculin is an extract of the products of pure cultures of the tubercle bacilli, made with glycerin and water. Given by the mouth, it is inert. Injected under the skin in doses of $\frac{1}{60}$ min., it causes only pain and a transient sense of fatigue in healthy persons, while in the tuberculous a marked reaction takes place, both locally and generally. This makes the agent valuable as a diagnostic aid.

Good therapeutic results have likewise been obtained by reliable authorities. The remedy must be used cautiously, however. It should be given in very small doses and tentatively at first, and increased very slowly so that a reaction is avoided. If a reaction does appear, no more should be injected until the temperature is again normal. Never should tuberculin be used where fever is present, or in far advanced stages of the disease. Some advise to keep the patient in bed on the day of injection and the day following. The only time when a reaction is desirable is when it is desired to confirm the diagnosis. If the patient does not react to .005 Mg. given in minute and increasing doses, he is declared free from tuberculosis.

As a remedy, tuberculin is given in beginning dose of about 1 decimilligram of the old preparation. If the slightest rise in temperature follows, the next injection is made only one-tenth as strong. The dose is carefully increased until a full grain of old tuberculin is tolerated without a reaction. When the old preparation is not well borne, the new tuberculin-R is substituted, and usually agrees with the patient in doses of 0.001 Mg. As soon as the patient tolerates 0.1 Mg. of tuberculin-R, he will also tolerate about 0.0002 to 0.001 Gm. of the old preparation. This method has produced favorable results in pulmonary tuberculosis. Lupus has also been treated successfully with tuberculin.

A number of preparations analogous to the latter have been introduced in recent years, notably the tuberculocidin and the antiphthisin of Klebs, who claims that tuberculin contains a soalbumin, which in aqueous solution possesses all the valuable properties of tuberculin without any of its toxic effects. This is his antiphthisin. He recommends the remedy in the most incipient stage of phthisis, and several reports have been published in its favor.

Some satisfactory results have also been achieved with Maragliano's serum treatment of tuberculosis. The serum is obtained by inoculating dogs, asses, and horses with increasing doses of tuberculin. The originator himself limits the indications for his method to cases of unmixed infection, and to early stages of the disease.

Coming to the value of antiseptics in pulmonary tuberculosis, it may be stated that they do not exert any marked germicidal action. This is plain when we consider that such remedies must necessarily become diluted in over fourteen pints of blood before they can act. The chief purpose in administering antiseptics internally is to obtain their beneficial action on the digestive tract. Given under the skin or intravenously, or by inhalation, antiseptics may be useful in preventing secondary infection. The last-mentioned method is the best.

Inhalation of formaldehyde has found some favor with the profession. One dram of formaldehyde may be used with $4\frac{1}{2}$ dr. of glycerin in 5 oz. of water. Ten drops of aromatic spirit of ammonia are added if the mucous membrane is irritated. The author has tried this measure in five cases with no apparent results. Others were more successful with the drug.

It is granted by all that one of the chief aims of the physician is to prevent secondary infection. For this purpose pure air is all-important. Sanatoria do good owing largely to this element. The inhalation of

a volatile antiseptic substance will efficiently aid in solving the problem. The compounds of creosote, mixed with volatile oils and chloroform, have given excellent results. Patients may wear a light inhaler day and night, for a long time, from several months to several years. Evidently such a method is too impractical to come into general use.

The author concludes by reminding us that there is still no specific treatment for tuberculosis; that the best results are obtained by studying and treating the patient's digestion and assimilation; that tuberculin does unquestionable good in some incipient cases, while antitoxin and inhalations are less satisfactory.

THERAPEUTIC VALUE OF ALCOHOL¹

By Leon L. Solomon, A. B., M.D.

IN medicine, until recently, alcohol was understood to mean whisky or brandy, both of which, varying within improper bounds, represent (approximately) 30 per cent. to 56 per cent. alcoholic strength. In late years, however, no doubt chiefly because of the cupidity or ignorance of distillers and blenders, some medical men have signified a preference for *pure* alcohol in lieu of alcoholic liquors, since these latter are too often prepared artificially, employing "high wine" with ethers, water, burnt sugar, essential oils (from corn and rye) and probably some little good whisky or brandy. These and other so-called "rectified goods," if not absolutely harmful, are, as a general rule, at least devoid of medicinal virtue. That they make a drink agreeable to many is not denied, neither would we question the peculiarly pleasing—too often subtle—influence on the nervous system, which they possess—an influence sometimes extremely exaggerated with these fancy brands. If the process of distillation has been unknowingly or carelessly carried too far, whereby amylic alcohol (fusel oil) comes over, the effect from the administration of such alcoholic liquor is at once directly harmful. Pure ethyl alcohol is half less lethal than an impure one containing amylic alcohol.

But "alcohol as a beverage" need not concern us now; it is alcohol and pure alcohol as medicine—pure alcohol in disease, which occupies our attention. Pure whisky, at least two years old, and, better, four years old—(brandy never less than four), containing only a trace of fusel oil, with some acetic, butyric, and, occasionally some valerianic acid will, in four years, under proper

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conditions, by reason of the reaction occurring between these contained acids and the alcohol, develop various ethers, which add considerably to the quality—the stimulation of the brand, giving it bouquet at the same time. Too often those who condemn alcohol in medicine have reached conclusions along false premises. The specimen used was not pure, the indication for it was not exact, the size of dose may have been improperly gauged, or the time of administration possibly wrong; all of these points are necessary in the exhibition of any drug, but more especially, when any of the active and powerful list, to which alcohol belongs, is being used; purity is *sine qua non*; next, a clear and definite idea of the indication the drug is supposed to meet and the effect it will produce, including the by-effects, its untoward action—all these are essential, ere we can say any drug has been properly manipulated. The stage of the disease and the state of the system are other factors deserving of especial attention, and the time of day with respect to the administration of alcohol is not less important; for, alcohol is as often an emergency drug as any other member of the stimulant group, and the hours between 12 o'clock, midnight, and 7 o'clock, A. M., most frequently (because, then vitality is at its lowest ebb) demand the free use of alcohol. There are times, when, seemingly it can be employed, at regular intervals, throughout the twenty-four hours—here its food quality and antiseptic property are in demand and it manifests its force as food and as antiseptic. In this connection, the author refers to the minds—in this, misguided, though otherwise well balanced—which seek, using every means and bending every energy, to convince the total abstainer, as well as the inebriate of the curse of alcohol, of its utter uselessness and veritable damnation under any and all circumstances. He would ask these: Have you ever tasted a good whisky? Have you ever observed its undoubted good effects in disease? No observing physician can fail to see the good, which comes from the judicious employment of whisky or brandy in low fevers, in which, under its influence, muttering delirium disappears and quiet sleep follows, the tongue grows moist and the pulse becomes regular and full, respiration tranquilizes, the skin becomes less parched, and the fever abates. No sane layman but can see and appreciate the prompt response in heart failure, when alcohol is employed, or, in the breaking up of the earlier effects of acute congestion, as in so-called "bad cold." The writer is convinced, that the medicinal

properties of alcohol make it inferior to no drug within the entire category, and that its prompt and efficient action renders it superior to many. As Dr. Farquharson puts it: "In turns, it may be a stimulant or a sedative, or a tonic, or a digestive, or an actual food; the argument in its favor, when wisely and prudently used, seems complete, it does us good and can do no harm"; to this the author adds: In turns, it may also be an antiseptic or an antipyretic, or an analgesic or a diaphoretic, or a diuretic or a stomachic, or a cholagogue, or, finally, under certain circumstances, a legitimate anesthetic.

There is still another class of extremists, who maintain that alcohol is a narcotic and paralyzant, who acknowledge it stimulates the heart, but assert this to be due to its narcotizing influence on cardiac inhibition. These statements have been proved false by well-known physiologic experiments and fixed laws. It is true, large amounts of alcohol do paralyze, but so do large amounts of opium, of digitalis, of aconite, and of many other powerful drugs. Even moderate quantities of alcohol, frequently repeated or habitually employed, produce gastric catarrh and other pathological states, but this again belongs to the subject "Alcohol as a beverage" and need not concern us. Healthy man does not need alcohol just as he does not need coffee, tea, tobacco, cocaine, opium, or other stimulants or narcotic. The statement made by Lawson Tait, that he was "fully persuaded, after thirty years of life as hard in work and as full of responsibility as well could be, that the moderate use of alcohol is a necessity in our modern times" seems to the author too bold, and he considers such language dangerous, particularly when coming from so high an authority. If alcohol did not harm Mr. Tait—an unusual man, whose system, possibly, by reason of his ceaseless toil, could tolerate and oxidize more of the product than could the system of other men, we still have no proof that its habitual consumption, even in moderate amounts, would not harm others. Man is never capable of generalizing or even attempting to reach justified conclusions where only the ego is concerned. Not only are there those who possess idiosyncrasy towards alcohol, but the liability of creating habit is an ever-present factor. Besides, as a food, though alcohol has this quality in a certain limited sense, nature has supplied us with articles by far its superior; and to employ alcohol, merely to whip out latent energy, except as the drug is indicated and demanded in the sud-

den emergency of disease, or otherwise in medicine, is a crime. Better a life less "hard in work and less full of responsibility" and posterity might then be permitted to boast of the real, the genuine accomplishments of normal man (unaffected by stimulants) in "modern times."

Few persons who partake of alcohol habitually can partake of it temperately and moderately, and yet there are exceptions to this rule. Those who are under its influence frequently or constantly have lower vitality and lower power of resistance, and are not only more liable to disease, but they are death's surest victims when they do fall sick. For such the very earliest exhibition of alcohol, as a general rule, is an absolute necessity in times of any illness, especially if there be, as is usually the case with them, adynamic symptoms; and with these habits the drug is invariably less capable of doing good, first, because of lowered vitality; second, because the system, accustomed to the effects of alcohol as a beverage, does not readily react to it when it is administered as a drug. The statement that from 2 to 4 oz. daily of whisky or brandy is necessary in ordinary disease, does not apply to this class of patients. They require much more. However, at best, it is a question difficult to decide in advance just how much or how little alcohol is necessary in a given condition, and this must be always a matter of individual bedside calculation in each individual case.

Alcohol should always be given tentatively—never as a routine medicine. Bartholow discountenances the treatment of states of depression by arterial stimulants and claims that the profession use such remedies in heroic doses often to the detriment of the digestion; with this statement the author concurs and with respect to alcohol, as a stimulant, thinks it wiser to exhibit it in smaller quantity for its good effect on the secretions and on metabolism. In the states in which alcohol has a pronounced effect upon the circulatory apparatus, the antiseptic influence of the drug in and on the blood, and its food value in the system are still most important, whereby not only is the pulse and respiration improved, the tongue moistened, and delirium assuaged, but the skin becomes less parched and the temperature falls, while quiet sleep follows—influences, the far-reaching value of which make alcohol an invaluable medicine. So far as the writer is acquainted with drug-action, none other is capable of doing so much.

Before taking up the question of the

value of alcohol in individual states, it is well to have a clearer idea of its pharmacodynamics. The physiologic action of alcohol—its influence on the circulation—is a matter of first importance, since by this influence every function of the organism is more or less affected and cell-life is, with hardly a single exception, invigorated. This is due not only to increased blood supply, but in some instances to direct stimulation—so-called specific drug action. The influence which alcohol has on the circulatory apparatus has no parallel in pharmacodynamics: it at once makes the drug unique in the *materia medica*. Alcohol is so rapidly absorbed from the stomach that its action is in evidence almost at once, making it a most valuable diffusible remedy. Even before its absorption from the stomach, however, by reflex action, following mere contact with the mucous membrane of the mouth, the cardiac apparatus has been briefly affected and stimulated. After absorption, the heart-muscle is directly acted upon and stimulated, as is probably also the accelerator center in the medulla, and possibly likewise the cardiac motor ganglia *in situ*. The heart now beats quicker and stronger, and arterial tension is raised; next, the vasomotor centers in the vessel walls are depressed or inhibited and the vessels of the entire body dilate, especially those vessels in the superficial parts—the skin; blood-pressure now temporarily falls, and the heart temporarily slows, until later the pronounced effect of alcohol on the cardiac muscle proper asserts itself for a second time. This latter action, namely, on the heart-muscle, marks by far the most prominent action of alcohol on the circulation (as the author has several times been able to demonstrate) and the impression on the heart is now so forcible as to overcome the fall in arterial tension, due to vascular dilatation, arterial tension again rising. As measured, systole is now prolonged, while diastole shortens.

These effects of alcohol are apparent in less time than it has taken to cite them, since the facility with which the drug enters the circulation (from the stomach) is marked. With these effects is apparent a feeling of exhilaration, a general glow and warmth of the entire body, the skin becoming moist by reason of increased blood-supply and by direct stimulation of the sweat glands; temperature falls, while the extremities warm up; gastric secretion is augmented, liver action is more pronounced—temporarily, urinary flow is slightly increased (especially by gin, an active diuretic). The slight actual elevation of temperature, which disappears

as soon as the skin is acted upon, is probably due to vascular excitement with its increased tissue oxidation, and also to the heat units—calories, supplied by the oxidation of alcohol itself.

The stomach (from which alcohol is promptly absorbed) feels the direct and powerful influence of the drug, and if the dose is not too large and is well diluted, the immediate effects are usually good; the highly congested mucosa and secreting glands produce a surplus of juice, digestion being more perfect. It must also be remembered, however, that alcohol is irritant to the stomach, that in concentration it precipitates the digestive ferments and coagulates albumin, that it abstracts water from tissues, making them sclerotic and inactive. Through the presence of alcohol in the portal vein the liver next feels the drug's influence, and temporarily the function of the hepatic cells is increased, which also tends to aid digestion as well as assimilation. Here the baneful effects of overstimulation or of habitual stimulation are seen first in impaired liver function, with lessened bile secretion, later in permanent changes in the histologic structure of the organ. The bulk of alcohol entering the blood from the stomach, very little reaches the intestine proper, so that the effect directly on the gut is slight, and, strange to say, it is chiefly that of an astringent. Brandy, which contains tannic acid, affords a markedly astringent effect. By reason of its own avidity for oxygen, alcohol prevents or retards the oxidation of hydrocarbons and of nitrogenous products. The elimination of both urea and carbonic acid gas are lessened—the blood containing at least 30 per cent. more CO_2 . Checking tissue metamorphosis by its inhibiting action on oxidation, the evolution of heat is diminished, and normal temperature is lowered; the antipyretic action of alcohol is due also to its dilating superficial vessels, whereby hot blood is brought nearer to the surface, permitting of heat radiation. Furthermore, the evaporation of augmented sweat decidedly lowers temperature. In pyrexia, these latter effects of alcohol are more marked.

Alcohol is a conservator of vital power. It adds force, if it does not add tissue to the body, and, within certain limitations, may be called a food. Anstie's experiments indicated that a variable amount of alcohol was burnt up in the body, at least the alcohol seemed to disappear and could not be recovered by him. Scientists now concur in the opinion that from 1 to $1\frac{1}{2}$ oz. of alcohol may be burned up in the blood or

tissues of a healthy adult within twenty-four hours. In disease even larger amounts disappear. The product of its oxidation does not seem to be heat, raising the body temperature (except as in health possibly for a fleeting period of time). The alcohol acts rather as would food; in fact, I believe it is food, its oxidation being stored up as a potential force and applied according to the demands of the economy in muscular, nervous or glandular power. Abundant experiments and clinical observations (in diabetes and other diseases) have, furthermore, proved that alcohol, under certain circumstances, may take the place of food, and, in fact, as repeatedly demonstrated, man is able for a variable length of time to subsist on alcohol alone. Advantage is taken of this valuable property of alcohol occasionally in the treatment of disease, especially in diabetes, when, in the removal of a certain amount of carbohydrate from the diet, the administration of alcohol is made to take its place.

The ability of alcohol to supply calories of heat (force or energy) is exceedingly great—for each 15 grm. of alcohol consumed approximately 7 calories of energy result. It is interesting in this connection and in comparison to know that 15 grm. of either carbohydrate or albuminous food supply only 4 calories, and the same amount of fat yields 9. Alcohol is rapidly absorbed, it is rapidly destroyed (burnt up) and any amount in excess of the power of the system to oxidize is rapidly eliminated, as alcohol, by the lungs, the skin and kidneys, chiefly. Fat accumulates where alcohol is administered, because tissue oxidation is lessened. This power of alcohol to prevent the perfect combustion of fat is also unique; technically it is explained as dependent upon a controlling influence alcohol has over oxyhemoglobin, the oxygen inhibited, as it were, from leaving the cell. It is also asserted that individual cells cannot carry as much oxygen, where alcohol is present. However this be, we are aware of two facts which are very valuable to us, namely: Fat in the blood of drunkards increases from 8.65 to 11.70 parts per 1,000 (steatosis), and in wasting diseases like tuberculosis, the deposition of fat, under the proper and careful daily administration of alcohol, is often marked.

A preliminary stage of excitement, due to increased blood-supply, is noted in the entire nervous system, after administration of alcohol, but soon function is diminished, alcohol then acting as a narcotic, relieving pain, allaying delirium, quieting restlessness and promoting sleep. Large doses act as

anesthetic, local as well as general, and also as intoxicant and deliriant, as is well known. The sensibility of cutaneous nerves, especially the fifth, seems specifically affected by alcohol as shown in promptly relieving neuralgias. However, in this class of cases, it is now considered contraindicated, because dangerous to the moral health of the subject, who according to recent research and investigation, is usually the descendant of neurotic progenitors. Alcohol is a sedative, possessed of marked antispasmodic property. Its sedative influence on the mucous membrane of the stomach is enhanced by CO₂ gas, as is seen in champagne and other sparkling wines. The evil influence of alcohol on the nervous system is very much more marked where fusel oil, in considerable amount, is present in the specimen.

Ameboid movement is decidedly increased by alcohol for a time, and this fleeting property, the author is prone to believe, materially conduces to give alcohol certain influence, which it exerts in aborting disease, as, for instance, in grip and in other epidemics of an infectious nature.

The author wishes to emphasize this point: Alcohol must be in a state of dilution before it can be absorbed. When thus administered respiration is, temporarily, quickened, later it is slowed. The effect of alcohol on indigestion is similar to bitters. In the mouth, it reflexly stimulates the flow of saliva; in moderation and dilution, before or during meals, to those in lowered health or convalescent from acute disease, or to the aged with feeble and impaired digestion, or to the tired and weary, alcohol produces a sense of warmth and comfort in the entire abdomen, which soon diffuses itself over the whole body. It dilates the arterioles in the mucous lining, it irritates the mouths of the secreting glands, soliciting a more abundant secretion, and what is most important, it seems to increase the activity of gastric movements—in itself and alone, a material aid to better digestion. Claret, beer and ale are of low alcoholic strength and preclude the possibility of both immediate and future harmful effects, while they act beneficially in impaired states of digestion.

The employment of alcohol in disease is multiform; to arouse and to support the system in sudden depression of the vital powers of life, it is a remedy without a peer, and may be given by the mouth, by the rectum, hypodermatically, or applied directly to the surface of the body, with friction. In shock, in sudden severe hemorrhage, in asphyxia, in poisoning—to counteract the

depression—as from aconite, antimony, conium, digitalis, tobacco, chloroform, ether; in fainting, in snake bite, to tide over the vital powers until the poison can be eliminated, and to directly antagonize (acting here as an antiseptic) the poison in the blood, no remedy is superior and, in the latter instance, none even its equal. Alcohol is useful in acute diseases, like diphtheria, smallpox, typhus, typhoid, cholera, pneumonia, yellow fever, the exanthemas, gangrene, septicemia, pyemia, etc., when heart failure threatens; it is likewise useful in certain stages of various maladies, where it not only acts as antiseptic in the blood, but largely as a food. In these conditions, the test of its value is as follows: It should improve the appetite, at least permit of more food being taken, by aiding digestion as well as assimilation; the tongue should appear moist, and the skin less dry; the temperature should fall (at least not rise); the respiration become more peaceful; nervousness, delirium and subsultus should disappear; finally, if quiet sleep follows coma vigil, the sum total of good has been obtained by the drug. The very young and the very old bear alcohol proportionately better than the adult or the individual of middle life, and they seem to derive greater benefit from it in disease. Especially in capillary bronchitis and in catarrhal pneumonia is this observation correct. In certain stages of cerebral or spinal meningitis, to arouse from collapse, alcohol is very valuable. In phlegmonous erysipelas, alcohol is indicated. In diabetes mellitus, to afford some of the necessary 2,500 or 3,000 heat calories, alcohol is a useful addition to the drug therapy of the disease, acting as food. In the nausea and vomiting of yellow fever, cholera, cholera morbus, seasickness, pregnancy and in delirium tremens, champagne or other carbonated alcoholic drink acts admirably. Iced brandy is also good in these cases; if it is old, and has acquired aroma, the stomach will often tolerate it better. In zymotic diseases, in dyspepsia due to micro-organisms, in cholera, in plague, in grip, in typhoid—in fact, in many infectious processes, especially such as gain entrance to the system through the digestive tract, the antiseptic influence of alcohol exerted on the tract is valuable as a preventive measure. Persons exposed to prolonged cold, and brought back to warm quarters, are more promptly revived if hot alcoholic drinks are given them. In delirium tremens, iced brandy to control the nausea, or other alcoholic drink to assist in the restoration of digestion and assimilation, is a genuine life-saving measure. Al-

cohol is, however, contra-indicated when the delirium has resulted from sudden excess and the stomach remains good.

Alcohol has been used in acute inflammation, because its later action lessens ameboid movement, preventing the migration of white blood-corpuscles. In the present light of opinion regarding inflammation, the employment of alcohol therein is open to criticism, but its antiseptic influence (from the germ standpoint of this condition) should not escape us. To prolong anesthesia and to sustain the heart and breathing, lessening the chances of death by reflex action when chloroform or ether are in use, alcohol is of paramount service. In wakefulness due to cerebral anemia, alcohol acts well, but here, as in neurasthenia, it is again dangerous to the patient's moral welfare. In functional impotence, small doses often act like magic. In anemia and chlorosis, good red wine has long enjoyed reputation. In atonic dyspepsia of the aged, in the apepsia of infants, in the slow digestion of convalescents, as already stated, alcohol has its place. In the atonic dyspepsia of those leading sedentary lives, and in impaired digestion from physical or mental exhaustion, the danger of habit overbalances the direct good. In summer diarrhea of babies, children and adults, brandy is curative. In malignant disease, alcohol among other drugs gives comfort, and the wretched sufferer is at least entitled to this. In suppuration, involving bone, cellular tissue or elsewhere, the supporting power of alcohol, plus its antiseptic influence, will often tide over until the balance of equilibrium is restored and nature can escape by her own *vis medicatrix*. Alcohol antidotes carbohc acid.

In chronic suppuration and in wasting diseases, the effect from alcohol not infrequently surprises us. Flint reports the case of a young lady suffering with pulmonary tuberculosis, who took 1 pint of whisky daily for nearly two years, and finally made a recovery, which he attributes to this medication. Indeed, it is marvelous to see how well these patients tolerate alcoholic drinks. Alcohol, in them, not only improves appetite and digestion, but it promotes constructive metamorphosis: by retarding the combustion of carbonaceous and nitrogenous substances, it lessens waste and thus promotes the deposition of fat, retarding the progress of the disease. In fevers, much good comes from the slowing and regulating of the pulse. Finally, alcohol is always indicated when adynamia is a pressing symptom. One of the first indications for its employment, in acute disease, is a muf-

fled or absent first heart-sound. More promptly, more efficiently than any other drug, it enables the person to call into use all of his available reserve force.

Locally, alcohol contracts cutaneous vessels, and, as an evaporating lotion, equal parts with water is agreeable and cooling in bruises, inflamed points or glands, where it stimulates absorption; the same is much used to bathe the skin of fever patients, convalescents and the enfeebled—common salt is here a good addition to the alcohol, whisky or brandy. Diluted alcohol with lead water and morphine acetate is superior to the old and much-employed lead water and laudanum; and flannel cloths, or better the hops-bag, dipped in hot whisky or brandy relieves neuralgia—toothache, earache and the like, promptly. As a gargle, spray or mouth wash in scurvy, stomatitis (mercurial or other), alcohol, especially the astringent and stimulating properties of brandy, is salutary. The astringent, anesthetic, and antiseptic influence of alcohol makes it valuable in tonsillitis, pharyngitis, and diphtheria; brandy diluted is a splendid injection, destructive to the gonococcus and stimulating cell-repair. The application of alcohol is good for frost-bite, to prevent bed sores, for excessive sweating of parts, or for night-sweats. In premature alopecia, alcohol alone, or in combination with other agents, has reputation. For fissured nipples, brandy is very useful. Absolute alcohol is very useful in several parasitic skin diseases and for freckles; it will abort herpes and relieve the pain and discomfort of herpes zoster, or the burning and itching of urticaria; for exuberant granulations and as an application to the erysipelatous patch, absolute alcohol is employed; it also arrests carbohc acid burns.

Alcohol is almost a perfect aseptic fluid. Its properties locally are: antiseptic, disinfectant, astringent hemostatic, anhidrotic, rubefacient, anesthetic; 18 per cent. strong, it is an anti-ferment. It is therefore applicable as a dressing to remove fetor, destroy germs, and stimulate tissue growth in suppurating wounds. In healthy wounds, by coagulating albumin, an impermeable covering results, hastening cicatrization. In hemorrhage alcohol is serviceable as an astringent, controlling capillary oozing, or as a tampon in the uterus. In the arts, alcohol is much used, and in pharmacy to dissolve alkaloids, fatty substances, and resins.

One more concluding thought: In the proper, internal, therapeutic application of alcohol, the utmost, discriminating judgment and extraordinary care are necessary.

REMEDIES INTRODUCED IN 1901

As has been our custom every January, we herewith present a list of the new remedies which have been introduced to the medical profession during the past year. The compilation of such a list is attended with greater labor than the reader may suppose, and we believe the ARCHIVES is the only medical journal in which such a list can be found.

ABROMA AUGUSTUM:—See Olut Kombool.

ACID, CINAMYL-CACODYLIC:—Used like the cacodylates.

ACID, ORTHOHYDRAZINEPARABENZOIC:—See Orthine.

ACID, SALOLORTHOPHOSPHINIC:—See Solvosal.

ACROLEIN-SULPHUROUS ACID:—Local antiseptic, as wash, ointment, or dusting powder.

ADRENALIN:—1:1000 solution. Active principle of suprarenal capsule. Powerful vaso-constrictor.

AGURINE:—Theobromine-sodium and sodium acetate. Diuretic. Dose: 4 to 8 grn.

ALBARGIN:—Silver-gelatinose. Antigonorrheal in 0.1 to 0.2 per cent. solution.

ALBOFERRIN:—Iron-phosphorus-albumin compound. Tonic and nutrient.

*ALKASEPTOL:—Antiseptic, germicide, and detergent.

ALPHA-EUNOL:—Compound of alpha-naphthol and eucalyptol. Antiseptic.

AMYL SALICYLATE: $C_5H_4OH.CO_2C_6H_{11}$. Antirheumatic and sedative.

*ANAEMIN:—Solution of "iron-pepsin-saccharate." Antichlorotic.

ANTIPIRYNE SALICYLACETATE:—See Tyrosal.

BACILLOL:—General disinfectant. Dark liquid.

BENZOZONE (Novy and Freer):—A new synthetic for which extraordinary powers as an intestinal antiseptic are claimed. Definite data wanting.

BETA-EUCAINE ACETATE:—Local analgesic and anesthetic. Used in 2-per-cent. solution.

BISMUTAL (BISMUTOL):—Mixture of sodium salicylate and soluble bismuth phosphate. Antiseptic.

BISMUTH CINNAMATE:—See Hetoform.

BISMUTH DILACTOTANNATE:—See Lactanin.

BISMUTH LACTOGALLATE:—Used like bismuth preparations.

BISMUTH LACTOTANNATE:—See Lactanin.

BISMUTOL:—See Bismutal.

BISMUTOSE:—Bismuth-albumin preparation. Gastro-intestinal and local antiseptic. Dose: $\frac{1}{2}$ to 1 dr. for children.

*BOLIFORMIN:—Compound of formaldehyde and aluminium silicate. Dusting powder for wounds, and veterinary siccative.

BOROGEN:—Boric acid ethyl ester. Disinfectant for respiratory organs. Used by inhalation.

*BROMYL:—Nervous sedative and antiepileptic.

CACODYACOL:—Guaiaicol cacodylate.

CALCINOL:—Calcium iodate. Succedaneum for iodoform. Also as an intestinal antiseptic.

CALCIUM GLYCERINOARSENATE:—Analogous to the glycerinophosphate. Dose: $\frac{1}{6}$ grn.

CALCIUM IODATE:—See Calcinol.

CAMPHORIC-ACID PHENERIDIN:—Compound of camphoric acid and paraphenetidin. Antipyretic and antihidrotic.

CEREVISINE:—Desiccated yeast, used like beer yeast in boils, furuncles, etc.

CHLOROMETHYLMENTHYL ETHER:—Forman Compound of formaldehyde, hydrochloric acid, and menthol. Used in coryza.

*CHLOROPEPSOID:—Remedy for gastritis, gastric neuroses, and alimentary disturbances.

CHRYSOLEIN:—Sodium fluoride.

CIUCHUARINE:—Alkaloid from *Senecarpus incardica*. Alleged aphrodisiac.

CINCHONINE SULPHOCRESOTATE:—Antipyretic, antiseptic, and malarial prophylactic.

CINCHONINE SULPHOPHENOLATE:—Antipyretic, antiseptic, and malarial prophylactic.

*CORPULIN:—Anti-obesity tablets said to consist of extract of bladder-wrack, tamarinds, and cascara sagrada.

CUPRARGOL:—Copper-albumin compound. Ocular astringent. Used in 1 to 5 per cent. solutions.

DIDYMIUM SALICYLATE:—See Dymal.

DIOXOGEN:—Trade name for sol. hydrogen dioxide.

DITHAN:—Trional.

DYMAL:—Didymium salicylate. Siccative powder.

*DYMOL:—Remedy for intestinal disorders. Dose: 1 to 3 grn.

ENTEROL CARBONATE:—Carbonic-acid ester of enterol (mixture of cresols used as an intestinal antiseptic).

EPHEDRA NEVADENSIS:—Caynote; Canutillo; Tapote. Blood purifier and antigonorrhoic. Dose: Teaspoonful of fluid extract.

ERYSIMIN:—Glucoside from seeds of *Erysimum*. Physiological properties like those of digitalin.

EUGUFORM:—Acetylated methylenediguaiacol. Antiseptic vulnerary.

ENOPHTALMIN:—Improper spelling (in many journals) for euphtalmin.

FORMALDEHYDE-SOAP:—Compound of formaldehyde and soap. Disinfectant.

FORMAN:—See Chloromethylmenthyl ether.

GASTERIN:—Preparation made from gastric juice of the dog, and used like pepsin.

GLYCOGENOL:—Substance obtained from animal organism, and nearly allied to glycogen. Used in tuberculosis and typhoid fever. Dose: 15 grn. hypodermically or per os.

GLYCOSOLVOL:—Peptonized theobromine trypsin oxypropionate.

GUAIACOL CACODYLATE:—See Cacodylic acid.

*HELIOSIN:—Indefinite mixture of various inorganic salts with keratin. Anti-syphilitic.

HEMOGLOBIN ALBUMINATE:—Synonym—Pectinamin.

HERMOPHENYL:—Mercury phenoldisulphate. Bactericide and antiseptic in 1 to 5:1000 solution; also in the form of soap.

HETOFORM:—Bismuth cinnamate. $Bi(C_6H_5O)_2B_2O_3$.

HYDRARGOTIN:—Mercury tannate.

ICHTHOSIN:—Ichthyol compound of zinc and osote carbonate. On the market in pill form.

ICHTHOSOT:—A combination of ichthyol and osote carbonate. On the market in pill form. For tuberculosis.

*An asterisk signifies that the remedy is not a new chemical compound, but a new combination.

- IISOPILOCARPINE**:—Isomer of pilocarpine. Action like that of pilocarpine, but much weaker.
- IMPATIENS FULVA**:—See Jewel-weed.
- IODIZED MEAT POWDER**:—Succedaneum for iodides for internal use.
- IODOGENOL**:—Compound of iodine and peptonized albumin. Succedaneum for iodine preparations for internal use.
- IODOKOL (or IODOCOL)**:—Iodine-guaiacol compound. Used in pulmonary tuberculosis, tubercular pneumonia, croupous pneumonia, and bronchial asthma. Dose: 3 to 6 grn. four to five times daily.
- IRON PARANUCLEINATE**:—See Triferrin.
- *IRONAL**:—Ferruginous preparation containing 80 per cent. iron.
- JAMROSIN**:—Fluid extract of an East-Indian Myrtacea used as an antidiabetic. Dose: 6 drops thrice daily.
- JEQUIRITOL**:—Sterile abrin solution of uniform physiological action. Used for inducing conjunctival inflammation.
- JEWEL-WEED**:—*Impatiens fulca*. Freshly expressed juice as an antidote to poison-ivy.
- KAKI**:—Japanese persimmons, recommended for stubborn vomiting in pregnancy, and in diarrhea.
- KANAGUGI**:—*Lindera erythrocarpa*. The fluid extract is used by the Japanese in secondary syphilis. Dose: Teaspoonful.
- KAROS**:—South African plant used in dysentery, and in ulcerative and hemorrhagic intestinal affections.
- KATHAROL**:—One of the numerous new trade names for peroxide of hydrogen.
- *KEREOSPINOL**:—Preparation of creosote and spinach. Remedy for phthisis.
- *KRETOL**:—Surgical dressing, antiseptic, and germicide.
- LACTANIN**:—Bismuth lactotannate. Used in diarrhea and malaria. Dose: 15 to 75 grn. daily, for children.
- LINDERA ERYTHROCARPA**:—See Kanagugi.
- LIQUOR THIOPHOSPHINI**:—Solution containing chiefly potassium guaiacol sulphonate. Dose: 1 to 2 dr.
- LITHREA CAUSTICA**:—Litre. An Anacardiacea found in Chili, and used in form of a tincture as a counterirritant.
- LOZON**:—Trade name for hydrogen dioxide.
- LYCRESOL**:—Soap solution containing crude cresol. Antiseptic.
- LYSULPHOL**:—A combination of lysol and sulphur (10 per cent. of S). A very thick, black liquid, soluble in water. In various dermatoses.
- MANGROVE**:—*Rhizophora mangle*. Used in leprosy.
- MELONEMETIN**:—Bitter principle from melon. Emetic and purgative.
- MENTHYL ACETOACETATE**:— $\text{CH}_3\text{C}(\text{OH}) : \text{CH} . \text{CO} . \text{OC}_6\text{H}_5$. Bactericide.
- MERCURAMIN**:—Mercury ethylenediamine citrate.
- MERCURY CACODYLATE**:—Antitubercular. Dose: $\frac{1}{2}$ grn. intramuscularly.
- MERCURY PHENOLDISULPHONATE**:—See Herminophenyl.
- METHYLENE CREOSOTE**:—See Pneumin.
- METHYLENE DIGUAIACOL**:—See Pulmoform.
- METHYLENE DIGUAIACOL, ACETYLATED**:—See Euguiform.
- MORPHINE CASEINATE**:—Soluble compound of morphine and casein.
- MORPHONYLACETIC ACID**:— $\text{C}_{17}\text{H}_{18}\text{NO}_3 . \text{C}_6\text{H}_5 . \text{CO} . \text{OH}$. Narcotic, like morphine, but weaker.
- MUSCARIUM**:—Extract of *Amanita muscaria*. Used in digestive atony. Dose: $\frac{1}{6}$ to 1 grn.
- MYCOSERUM**:—Muscle juice. Nutrient antitubercular.
- *OENOTANNOL**:—Tuberculosis remedy consisting of tannic acid and grape juice or grape pulp.
- OLEITE**:—Jelly-like ointment base obtained by action of sulphuric acid on castor oil.
- OLUT KOMBOOL**:—*Abronia augustum*. East Indian remedy for dysmenorrhea. The fresh sap is used.
- OPICEREBRIN**:—A preparation of brain substance, recently recommended by Lion in epilepsy.
- OROXYLIN**:—Crystalline substance from *Oroxylon indicum*. Astringent and tonic.
- ORTHINE**:—Orthohydrazineparabenzoic acid. Phenylhydrazine derivative. Antipyretic. Dose: 4 to 8 grn.
- *OVOS**:—Succedaneum for meat extract, prepared from yeast.
- PANCREON (PANKREON)**:—Pancreatin-tannin compound. Tryptolytic, used in gastro-intestinal digestive disturbances. Dose: 5 to 8 grn. thrice daily.
- PARIETIN**:—Chrysophanic acid.
- PEGMIN**:—Species of rennet for rendering cow's milk easily digestible.
- PENTODYNE**:— $4(\text{Na}) . \text{C}_4\text{H}_5\text{N}_5\text{O}_{10} . \text{OH} (?)$. Analgesic, antipyretic, and neuralgic. Dose: 2 to 10 grn.
- PERDYNAMIN**:—Hemoglobin albuminate.
- PHENAMIDE**:—Coal-tar derivative. Antipyretic and analgesic.
- PHENOL-CELLULOID**:—Phenol-camphor solution of pyroxylin used as a varnish for protecting wounds, etc.
- PHOSPHORYLQUININE**:—Quinine-phosphoric-acid ester.
- PNEUMIN**:—Methylene-creosote. Antitubercular.
- PROTAN**:—Tannin-nucleoproteid. Antidiarrheal. Dose: 20 to 30 grn.
- PROTOSE**:—Vegetable food for anemia, diabetes, obesity, dyspepsia, etc.
- PULMOFORM**:—Methylene diguaiacol. $\text{CH}_2(\text{C}_6\text{H}_5 . \text{OH} . \text{OCH}_3)_2$. Antitubercular.
- PURGATOL**:—Anthrappurpurin diacetylesther. Mild purgative. Dose: 8 to 15 grn.
- PURGO**:—Phenolphthalein. Purgative. Dose: 2 to 10 grn.
- PYRAMIDON CAMPHORATE**:—Succedaneum for antipyrine and pyramidin in tuberculosis. Dose: 15 grn.
- QUININE ACETYSALICYLATE**:— $\text{C}_{20}\text{H}_{24}\text{N}_2\text{O}_2 . \text{C}_6\text{H}_4 . \text{O} . \text{C}_2\text{H}_5\text{O} . \text{COOH}$. Antirheumatic.
- QUININE PHOSPHORIC-ACID ESTER**:—Syn.—Phosphorylquinine.
- QUININE SALICYLIC-ACID ESTER**:—See Saloquinine.
- QUININE METHYL-DIHYDRAZINE PERCHLORATE**:—Compound obtained by fusing together quinine hydrochlorate, caffeine, and antipyrine.
- RADAL**:—20 per cent. solution of protargol.

*RAMOGEN:—Infant and invalid food.

REMARCOL:—Sodium fluoride.

RHEUMATIN:—Salicylquinine (saloquinine) salicylate. Antirheumatic. Dose: 15 grn.

*SACCHAROSOLVOL:—Organotherapeutic preparation obtained by action of salicylic acid and diastatic ferment of pancreatic juice on spinal marrow of cattle.

SALICYLQUININE SALICYLATE:—See Rheumatism.

SALICYLIC-ACID BENZYL ESTER:—External antiseptic.

SALINIGRIN:—Glucoside from bark of *Salix nigra*.

SALOQUININE:—Quinine ester of salicylic acid. Febrifuge and analgesic. Dose: 30 grn.

SALOQUININE SALICYLATE:—See Rheumatism.

SELENOPIRYNE:—Product of reaction between potassium selenide and antipyrine "chloride."

SOLVOSAL:—Salolorthophosphinic acid.

SOLVOSAL-LITHIUM:—Compound of solvosal (q.v.) and lithium. Intestinal antiseptic and diuretic. Dose: 5 to 15 grn. daily.

SOLVOSAL-POTASSIUM:—Compound of solvosal (q.v.) and potassium. Intestinal antiseptic.

TARTARIC-ACID DIPHENYLESTER:—Condensation product of tartaric acid and phenol. In gout.

TARTROPHEN:—Compound of phenetidin and tartaric acid. Analogous to citrophen.

TETRAMETHYLCYANOPYRIDON:—Myotic.

THEOBROMINE-SODIUM AND SODIUM ACETATE:—See Agurine.

THIOPYRINE (THIOANTIPYRINE):—Product of reaction between potassium sulphydrate and antipyrine "chloride."

THYMATOL:—See Thymotal.

THYMOTAL:—Thymol carbonate. Tyratol. Anthelmintic. Dose: 30 grn; 5 to 15 grn. for children.

THYMOL CARBONATE:—See Thymotal.

THYMOL CHLORMETHYLSALICYLATE:—Condensation product of thymol and chlormethylsalicylic acid. Antiseptic.

TRIFERRIN:—Iron Paranaucleinate. Hematinic. Dose: 5 grn. three times daily.

TYRATOL:—See Thymotal.

TYROSAL:—Antipyrine-salicylacetate.

UREA QUINATE:—See Urol.

URESIN:—Urotropin-lithium citrate. Solvent for gravel. (Do not confound with urosin, which is lithium quinate).

UROL:—Urea Quinate. Used in gout and gravel. Dose: 30 to 75 grn. daily in hot water.

UROSTERIL:—Preparation containing extract of pichi pichi. Antigonorrheal.

UROTROPIN-LITHIUM CITRATE:—See Uresin.

VALYL:—Valerianic acid diethyl amide, $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{N}(\text{C}_2\text{H}_5)_2$. On the market in gelatin capsules. In hysteria, traumatic neuroses, neuralgia, etc.

XANOL:—Sodium-caffeine salicylate. Diuretic.

XERANTHEMUM ANNUUM:—A Composita recommended as a cardiac tonic.

ZOMOL:—Nutrient prepared from meat.

BISMUTH IN THE TREATMENT OF GASTRIC ULCER

Unlike wounds of the stomach walls, says Dr. W. Fleiner,¹ gastric ulcer shows little tendency to heal. It is of prime importance in accelerating the healing process to allow the stomach to contract as much as possible, thus approximating the edges of the ulcer and favoring adhesion of its walls. On the average, about six weeks are necessary for a cure of gastric ulcer in favorable cases. Often, however, the process of healing is exceedingly slow, owing to the inevitable irritation to which the ulcer is from time to time subjected, even under the most careful treatment.

The problem is thus to protect the ulcerated area from irritation, and this is best accomplished by means of bismuth salts. Even in ideal cases, taking a smooth and rapid course, there comes a time when the diet must be gradually enlarged, and during this critical period bismuth subnitrate is of great value. As soon as increased acid-production arises, and does not yield promptly to alkaline waters, bismuth is indicated in large doses.

To insure its action, however, the stomach should be clean before the drug is taken and to preclude harm the bowels must be emptied by means of enemata of water or oil. The stomach is cleansed by sipping 3 to 5 oz. of warm Carlsbad or Vichy water on rising in the morning, and three-quarters to one hour later 1 to 2 dr. of bismuth subnitrate suspended in 3 oz. of water are swallowed down. Half an hour later breakfast may be taken. This medication is to be repeated every morning (and occasionally it is indicated even twice daily) until a cure is established.

In old gastric ulcers with an indurated fibrous base, bismuth is especially valuable, and is to be given in doses large enough to cover the ulcer with a thick protective layer. Two to four drams may be given, after a lavage of the stomach, through the stomach-tube. The patient should then be directed to assume a position favoring the deposition of bismuth on the ulcer. Thus, if the ulcer is situated in the pyloric region, he should lie on his right side, etc. Several days of this treatment usually relieve the pains and the bismuth doses may be reduced, but the drug is to be continued until all symptoms have disappeared and a mixed bland diet is tolerated.

Gastric ulcers complicated with stenosis of the pylorus are very refractory to medical treatment, and no cure is to be expected from bismuth. Surgical measures, as gastro-enterotomy, are indicated.

¹ *Therap. der Gegenwart*, 1901, No. 11.

As may be noticed, the year that has just passed has not brought us anything strikingly new or valuable in therapeutics. But, instead, the older drugs have been given more attention and study.—EDITOR.]

Progress in Materia Medica and Therapeutics

FATAL CASE OF BICHLORIDE POISONING

Dr. La Page¹ reports a case of fatal poisoning by a mercuric chloride uterine injection. The woman had had an abortion and it was decided to irrigate the uterine cavity with a solution of carbolic acid prior to curetting. By mistake a strong solution of corrosive sublimate was used. Though the uterus was at once washed out with sterilized water, suppression of urine, diarrhea, and delirium rapidly developed and death followed shortly after. She suffered great agony from vesical tenesmus, and the discharges, which were also accompanied by tenesmus, were exceedingly fetid.

MORPHINE AS A CARDIAC TONIC

Dr. O. Rosenbach² has for some time been advocating morphine as a cardiac tonic, and his experience now seems to find followers. He recommends the drug in the treatment of heart disease, and points to the similarity in certain effects between morphine and digitalis, although their mode of action is entirely different. Both act as cardiac tonics, if properly employed. In cases of dyspnea and arrhythmia cordis, the author recommends morphine first, before resorting to digitalis. In combination with ether and absolute rest, the narcotic will often succeed in restoring compensation. Its value in angina pectoris is well known.

Generally speaking, the author holds narcotics in high esteem in the therapeutics of heart-disease, and promises in the near future a paper which will deal with the indications and proper dosage of morphine. He thus entertains hopes of widening its field of usefulness.

HYOSCINE HYDROBROMATE IN CHOREA¹

Dr. W. Brown Ewing³ writes that having observed the good effects of hyoscine in the violent maniacal excitement of the insane, he decided to try its efficiency in the violent muscular excitement or incoördinate twitchings of chorea. The first case seen by the author in which the drug was used, was a boy of eighteen; the chorea was acute and exceedingly severe; he had to be protected, while in bed, from injuring himself by mattresses placed on each side. The urine and feces were passed involuntarily, and patient was unable to swallow any solids or liquids. Arsenic had been used with no apparent re-

sult. The following treatment was instituted: Fowler's solution, 8 min. three times a day, increasing by 1 min. daily until puffiness under the eyes made its appearance. At the same time, hyoscine hydrobromate, $\frac{1}{100}$ grn., was injected hypodermically morning and afternoon; at bedtime chloral and ammonium bromide, 20 grn. of each, were given. At the end of five days the involuntary movements had ceased and the patient was able to move about. Since that case the author has used hyoscine hydrobromate in twenty more or less severe cases of chorea and always with the most favorable results. The dose ranges from $\frac{1}{200}$ grn. to $\frac{1}{50}$ grn. according to age and severity of attack. In most of the cases, however, it was given in conjunction with Fowler's solution.

TREATMENT OF ECZEMA OF THE EAR¹

Eczema of the ear may attack the auricle or the auditory canal, or both. Chronic eczema of the canal gives a serious prognosis, as it may lead to stenosis of the canal and also cause recurring furuncles.

During the irritative stage of acute eczema, all moist dressings and all medicated lotions are out of place. A dusting powder may be applied three or four times daily and covered with cotton:

| | |
|-----------------|--------------------|
| Talcum..... | 1 oz. |
| Zinc Oxide..... | $2\frac{1}{2}$ dr. |

Later on, when crusts are forming, fatty applications are indicated in order to remove them. These applications may be left in place for twenty-four hours. Then, the eczematous surface being clean, an ointment of zinc is called for:

| | |
|-------------------------------|-------------------|
| Zinc Oxide..... | $\frac{1}{2}$ dr. |
| Fresh Lard or White Vaseline. | 5 dr. |

To prevent the disease from assuming a chronic character, when the crusts are no longer being formed, the new epidermis should be protected by means of Lassar's paste:

| | |
|---------------------|--------------------|
| Zinc Oxide..... | $2\frac{1}{2}$ dr. |
| Starch..... | $2\frac{1}{2}$ dr. |
| Salicylic Acid..... | 5 grn. |
| Vaseline..... | 5 dr. |

Sometimes ointments of calomel, the yellow oxide of mercury (1:20), ichthyol or oil of cade (1:10), are effectual. When there is a marked tendency to chronicity, the canal is to be cleansed, a bit of cotton soaked in silver nitrate (1:40) introduced, and the meatus closed by a plug of dry cot-

¹ *Comptes Ren. de la Soc. d'Obst.*, etc., 1901.

² *Therapie der Gegenw.*, 1901, No. 11.
Pennsyl. Med. Jour., Nov., 1901.

³ *Les Nouv. Remèdes*, XVII, No. 19.

ton. When the skin assumes a bright pink color, mild emollient salves will suffice. In certain rare cases a cautious application, lasting not over three minutes, may be made with silver nitrate (1:10).

In eczema of the canal, if there is simply a furfuraceous desquamation, apply the following thrice daily with a brush:

| | | |
|----------------------|----|------|
| Menthol..... | 16 | grn. |
| Liquid Vaseline..... | 10 | dr. |

Or this:

| | | |
|---------------------|----|------|
| Oil Cade..... | 16 | min. |
| Liquid Vaseline.... | 2½ | dr. |

Or:

| | | |
|----------------------|---|------|
| Salicylic Acid..... | 2 | grn. |
| Liquid Vaseline..... | 5 | dr. |

When the scales adhere or obliterate the canal they can be removed with 10 drops of this solution:

| | | |
|-----------------------|----|------|
| Sodium Carbonate..... | 2 | grn. |
| Glycerin..... | 2½ | dr. |

Later on, fatty ointments and silver nitrate are useful.

Dry eczema of the auricle is treated by cleansing the skin with cotton soaked in

| | | |
|----------------------|---|-----|
| Green Soap..... | 2 | dr. |
| Alcohol (90%)..... | 3 | dr. |
| Distilled Water..... | 5 | dr. |

Then use the following ointment:

| | | |
|-------------------------|---|-----|
| Ichthyol or Styrax..... | ½ | dr. |
| Vaseline..... | 5 | dr. |

The seborrheic form is treated with sulphurated ointments, and fissures must be touched with silver nitrate.

General hygienic and dietetic measures are useful, and occasionally arsenic renders valuable service:

| | | |
|--------------------------|----|------|
| Sodium Arsenate..... | 1½ | grn. |
| Cherry-Laurel Water..... | 12 | dr. |
| Water..... | 5½ | oz. |

One to four teaspoonfuls daily.

AIROL AS AN EXTERNAL ANTISEPTIC

For many years iodoform has been one of our most precious remedies in the treatment of wounds, ulcers, burns, etc. Were it not for its great drawbacks—its abominable odor, tendency to cause itching and eczema, and danger of intoxication—the search for a substitute would be superfluous. As it is, the number of iodoform substitutes is very large, but the ideal preparation Dr. J. Braun¹ found in airoi. Chemically, airoi is bismuth-iodo-subgallate; its action is due to the liberation of iodine, which being *in statu nascendi* exerts a powerful bactericidal effect, and to the residual bismuth subgallate which exerts its well-known siccative and healing properties. It is greenish-gray powder, odorless, and insoluble in water. It is employed either pure

or mixed with boric acid and starch, or in the form of a salve, or suspended in a mixture of glycerin and water. The author has used airoi for a number of years in the following affections and with most gratifying results:

(1) In ulcers of the leg. As is well known, these ulcers sometimes assume such large proportions and look so nasty that it is a surprise how the patients could go on for such a long time without applying for treatment. As a rule, iodoform is very unsuitable in such cases, as it quickly causes a troublesome eczema. Airoi, on the other hand, has given the author the most excellent results. Without any irritation, it dries the ulcerating surface, converting it into an area of healthy granulations. Under two weeks' treatment with airoi in powder or ointment form—provided the patient stay in bed—such ulcers assume a perfectly healthy appearance, and in another two weeks' time they cicatrize completely.

(2) Similarly excellent results have been obtained by the author in abscesses of the lymphatic glands of the neck and of the axilla, and in burns of the second degree. In the latter he uses for the first few days a powder consisting of 1 part of airoi and 9 parts of starch; after that an ointment of the following composition is applied: Airoi, 1 part; vaselin, 2 parts, and wool-fat, 7 parts. The action of airoi in burns is not only antiseptic and healing, but distinctly anodyne; frequently every trace of pain disappears in the first twenty-four hours. Even if used freely and for a long period, there is never any danger of intoxication.

(3) In rhinitis of scrofulous individuals, especially such as suffer at the same time with blepharitis and conjunctivitis, airoi in the form of a 5- to 10-per-cent. ointment or a 10-per-cent. powder (1 part airoi, 9 parts finely powdered boric acid) snuffed up into the nose is very beneficial. It quickly diminishes the secretion and heals the excoriated spots.

(4) Another trouble in which airoi has proved remarkably useful is cracks of the nipples. It is well known how extremely painful and troublesome these cracks and excoriations may become. Here, again, airoi acts not only as a vulnerary, but as an anodyne as well. Before and after each nursing the nipple must be carefully washed with a weak solution of potassium permanganate and then covered with airoi wool fat ointment or airoi collodion.

(5) Other affections in which airoi in ointment or powder form has proved highly effective are balanitis, ulcers and abscesses of all kinds, ulcerations of syphilitic origin,

¹ *Domin. Med. Monthly*, xvii, No. 4.

chaneroids, catarrh and erosion of the cervix uteri, and in tubercular ulcers of the tongue, larynx, and pharynx. In chaneroids the author advises a preliminary washing with a weak solution of corrosive sublimate or copper sulphate; the chaneroid is then dried and covered with pure airol; as soon as it assumes a healthy granulating appearance, a 10-per-cent. airol wool-fat ointment is substituted for the pure airol. In erosions of the cervix, suppositories (containing 8 grm. of airol) or a 10- to 20-per-cent. ointment are employed. In ulcers of the larynx and pharynx the airol is employed by insufflation.

THE ACTION OF ARSENIC ON THE SKIN

Arsenic is very widely distributed in nature, and is very extensively employed in various industries. Articles of clothing, such as gloves and stockings, wall papers, tapestries, house furniture, etc., are often contaminated by arsenic, and it easily finds its way into food and drink. Arsenical epidemics have been occasioned by its admixture with bread, wine, and beer.

The occurrence of a recent epidemic of arsenical beer-poisoning gave Dr. Leslie Roberts¹ an opportunity of observing the action of arsenic on the healthy skin. The physiological effects of the metalloid may be grouped as follows: (1) Pigmentation, (2) hyperkeratinization, (3) desquamation, (4) atrophy, (5) fatty degeneration.

(1) The pigment in arsenical pigmentation is melanin, and is apparently the normal melanin greatly increased in quantity. In marked cases the entire epithelium is pervaded. The old notion that melanin originates from hemoglobin is not borne out by the author's observations. The strongest argument against this conception is the fact that no natural affinity exists between arsenic and blood. Arsenical hypermelanosis is actually accompanied by an increase in the number of red blood corpuscles, at least in some cases. It would seem, therefore, that the melanin is developed in the epithelial cells as a result of arsenical stimulation.

(2) Hyperkeratinization.—Even in an early stage of arsenical poisoning the epithelium is hypertrophied, and this is the most important clinical sign. The most characteristic evidence is furnished by the palms and soles. A well-marked arsenical palm is not easily forgotten when once seen. It is more simian than human in type, clammy from excessive perspiration, with deep grooves and lines. It feels like wet shagreen to the touch. The surface is studded with

little nodules, which are often better felt than seen. These nodules are frequently horny, and any previously existing callosities also become enlarged.

(3) Another highly characteristic symptom of arsenical poisoning is desquamation. No part of the body, not even the nails, are exempt from it. On the chest and abdomen it is more pronounced. The degree of desquamation is very irregular, like all effects of arsenic. This desquamation is not a final stage of erythema, but the direct result of the action of arsenic on the epithelium.

(4) Following the initial hypertrophy of the skin a reverse process soon takes place, terminating in atrophy, which in its advanced stages involves the sweat glands and the sebaceous glands.

(5) Fatty degeneration occurs in the skin as the result of chronic arsenical poisoning. Sections of the skin immersed in osmic acid become black in a few seconds. In the final stage the nutrition of the skin suffers profoundly, and the epithelium is reduced to an extremely thin and delicate plate, the granular layer of cells having partially or entirely disappeared.

The author concludes from his investigations that arsenic is not merely a drug and is not an irritant poison only. Its effects are of a nutritive order, brought about by the agency of active oxygen, and these effects seem to be injurious to the organism when the oxidation is rapid, while being beneficent if it is slow. When arsenic is tolerated, improved nutrition is the result, and this improvement manifests itself chiefly in keratinized structures, as hair and cuticle.

MORPHINE IN ACUTE GASTRO-ENTERITIS

The intolerance of infants to opiates is well known, and morphine especially is banished from the therapeutics of infancy. Now, according to Dr. Borde,¹ infants even from one month to two years old tolerate morphine very well, if administered in fractional doses at regular intervals. The author is in the habit of prescribing the syrup of morphine, in a mixture of $3\frac{1}{2}$ oz., and giving the infant 1 teaspoonful every hour, day and night, without regard to meals.

The aim should be to induce real sleep, not only somnolence. As soon as the child is awake, the administration ought to be continued. The dose varies, of course, according to age: for a baby one month old, $\frac{1}{2}$ to $\frac{3}{4}$ dr. of the syrup is given in the $3\frac{1}{2}$ -oz. mixture; at three months, the baby will require $1\frac{1}{4}$ dr.; at six months, $2\frac{1}{4}$ dr.; at nine months, $2\frac{3}{4}$ dr.; at one year, 3 dr.;

¹ *Brit. Med. Jour.*, No. 2126.

¹ *La Sem. méd.* xxi, No. 40.

at fifteen months 4 dr., to the whole mixture, and after that 16 min. are to be added for every three months of age. This is the average dose.

[The syrup of morphine of the French Codex contains 1 part of morphine to 2,000 parts of syrup; by a little calculation it will therefore be seen that the amount of morphine ranges from $\frac{1}{60}$ grn. (to each $3\frac{1}{2}$ oz. mixture) to $\frac{1}{8}$ grn. For an infant one month old the dose will, accordingly, be about $\frac{1}{1500}$ grn., and for a child two years old about $\frac{1}{150}$ grn.—EDITOR.]

In a case of moderate enteritis the doctor orders morphine in doses less than the above average; if at the end of twenty-four hours no sleep follows, the average dose is resorted to; and if this fails, the drug may be steadily pushed until the dose is doubled. The requisite dose once reached, it is given throughout the disease, until convalescence begins, when it is gradually reduced.

This treatment, combined with a properly regulated diet (cereal decoctions, with or without albumen-water, absolute suppression of cow's milk), will not fail to produce rapid results: the urine will become more abundant and clear, nervous phenomena will be relieved, and the intestinal affection will show improvement. Even the flatulence is relieved by morphine, strange as it may seem to those who hold that the alkaloid paralyzes the intestine. In reality, morphine acts in an opposite manner, by exciting and regulating intestinal contractions. Others have confirmed Dr. Borde's statements. It must be specified, however, that only in acute infectious gastro-enteritis is morphine indicated—not in the chronic or non-infectious forms.

LECITHIN IN TUBERCULOSIS

The efficacy of lecithin in stimulating nutritive exchange has been scientifically demonstrated by various observers. Gilbert and Fournier have shown that the administration of lecithin produces an increase of weight in cases of tuberculosis, neurasthenia, and diabetes. The effects of lecithin in cases of tuberculosis are more satisfactorily shown by H. Claude and A. Zaky,¹ who in their experimental and clinical studies gave special attention to urinalysis, and to the changes in body-weight and in the general physical condition of the subjects of their experiments. They find that lecithin causes in tuberculous subjects a rapid modification in metabolism, which expresses itself by an immediate diminution in phosphorus elimination, and by a tend-

ency to progressive elevation of the coefficient of nitrogen utilization. In subjects not in the last stages of chronic tuberculosis and not suffering from too acute an attack of the disease, the administration of lecithin produces promptly an increase of weight, stimulation of appetite, amelioration of the general condition. How far local lesions are affected is not shown, but in the opinion of the authors such lesions are modified as indicated by changes in physical signs. Lecithin is strongly recommended by these writers, if not as a specific, at least as an important adjuvant to other forms of treatment.

SUBCUTANEOUS INJECTIONS OF CHAULMOOGRA OIL IN LEPROSY

Dr. Hallopeau¹ comes to the following conclusions: (1) Lepers treated with large doses of chaulmoogra oil, either by intramuscular injections or by the mouth, may show so much improvement as to be considered cured. (2) More frequently the disease continues to show itself, but usually in a benign manner. (3) In some cases marked local and general exacerbations occur in spite of the treatment. (4) The effect of chaulmoogra oil, although beneficial, cannot be compared with that of mercury and iodine in syphilis or of quinine in malaria. (5) The hypodermic method is to be preferred if it is well borne; it is, however, a painful method. (6) The comparative effects of the various products supplied under the name of chaulmoogra oil should be studied. Du Castel is not in favor of subcutaneous injections as a routine method, on account of the pain and induration and the possibility of fatty pulmonary embolism.

CATARRHAL CONDITIONS OF THE FEMALE GENITAL TRACT²

While therapeutic measures must be varied according to influences and peculiar individual conditions, a highly useful general application to the mucous surface is this:

| | |
|-----------------|-------------------|
| Ichthyol..... | 1 dr. |
| Boric Acid..... | $\frac{1}{2}$ dr. |
| Glycerin..... | 1 oz. |

Apply to parts.

The surfaces having been well cleansed, they are painted with this preparation, and in cervicitis a tampon saturated with the solution may be placed and left in situ for from twelve to twenty-four hours.

Definite and specific sources of irritation should, of course, have adequate attention

¹ *La Presse méd.*, Sept. 28, 1901. *Med. News.*

² *Epid. Brit. Med. Jour.*, Nov. 16, 1901.

³ *Clin. Review*, XV, No. 1, p. 49.

THE ABORTIVE AND CURATIVE TREATMENT OF ACUTE DISEASES

Dr. J. A. Riviere¹ writes on the usefulness of calomel, water, heat, and quinine in aborting and curing acute diseases, especially enteric fever and appendicitis. The dominant idea of the author is the harm done by toxic and refuse matter, if retained in the body. These noxious substances come from the food and from the digestive and other processes going on in the system. The liver has the important duty of disinfecting the body, as it were, by purifying the fluids brought by the main sewer of the organism, the portal vein. Bile is the product by means of which the elimination takes place, and on the contents of the intestine the bile exerts an antiseptic action.

When the hepatic function is impaired, the bowels become infected and flood the portal vein with bacilli and toxins. These can no longer be neutralized or eliminated, and infectious, typhoid symptoms are the result.

Enteric fever, appendicitis, dysentery, children's diseases, and acute diseases in general, says the author, are promptly cured by the judicious employment of calomel, which disinfects the whole organism. Calomel with sodium bicarbonate is well borne by the most sensitive stomach. It is never contra-indicated. The author gives all his fever patients calomel and sodium bicarbonate, 4 grn. of each, on the tongue at midnight, and follows this up in the morning by castor oil beaten up with hot water or 2 dr. of magnesia (adult dose). By the next evening the fever subsides. When fever is present, the author further orders, to be taken before the calomel, $\frac{1}{2}$ dr. sodium salicylate, which acts as a cholagogue. Quinine is employed to prevent a return of the fever.

The patient is warmly covered and given hot drinks or beef-tea, the latter to weak persons.

Calomel, together with heat and tepid water enemas, has enabled the author to save children ill with cholera, and meningitis can also be cured, or at least relieved.

With this treatment, grave symptoms will seldom be seen in influenza, eruptive fevers, pneumonia, pleurisy, nephritis, and acute diseases. Calomel is equally efficacious in puerperal infection, where it powerfully assists uterine douches.

The remedy should never be given in doses larger than 5 grn. in adults and $2\frac{1}{2}$ grn. in children. Small doses are inefficient, large ones harmful. Sodium bicarbonate must always be given along with

it and castor oil should follow in five hours. Next morning (in winter) the patient must stay in bed and take no cold drinks whatever. After the first evacuation, hot drinks or beef-tea may be given. Plenty of water is beneficial.

In appendicitis, the author strongly condemns ice and morphine. He uses the following method: The patient is first given a tepid bath (at about 98° F.), lasting one to two hours, in a warm room. He is then dried and placed in a warm bed, while an ointment of mercury and belladonna, as well as large hot poultices, are applied to the abdomen. Pain is controlled by a small enema of $\frac{1}{2}$ dr. of antipyrine. An hour later an emollient decoction of marsh-mallow is given by rectum. To combat the pain still more effectually, 10 grn. of phenacetin are given by the mouth, and repeated in two hours. Hot drinks are the chief diet. Calomel with sodium bicarbonate, 4 grn. each, are given three hours after the second dose of phenacetin. After the calomel, hot drinks are withdrawn for one hour. Five hours after the calomel, castor oil (1 tablespoonful in a cup of hot water) is given.

This is the author's medical treatment of appendicitis, which, he is confident, will succeed so long as suppuration has not taken place. The author says he is aware of the fact that his ideas as to the abortive power of calomel in appendicitis, typhoid, etc., are opposed to the teachings of the great medical authorities. Still, he feels perfectly justified in offering them, because they are based on bona fide experiments and they can be easily corroborated or controverted by the future experience of other physicians.

OLEIC ACID IN HEPATIC COLIC

Olive oil has always been considered empirically as a specific remedy in hepatic colic, and even in gall-stones. But it has usually been administered during the attack, and more as a sedative than for preventive purposes.

Dr. S. Artault de Veve¹ attempts to show that in oleic acid, the active principle of olive oil, we possess a powerful preventive of biliary lithiasis.

We know that hepatic colic is generally caused by the presence of gall-stones, and these consist chiefly of cholesterin and carbonates or phosphates of lime, the former being precipitated whenever the bile is deficient in sodium choleate.

Ordinarily cholesterin is held in solution in the bile by means of the salts of the biliary acids, that is glycocholic and tauro-

¹ *Brit. Med. Jour.*, No. 2128.

¹ *Rev. de Thérap.*, LXVIII, No. 18.

cholic acids, the former composed of cholic acid and glycocholl, the latter of the same acid and taurin.

Now, cholic acid is a non-nitrogenous substance and may be considered as enclosing a radical of a fatty acid; namely, a compound closely allied to oleic acid, which is also the chief constituent of olive oil. Hence, according to the author, it is highly probable that to oleic acid the remedial effect of olive oil in biliary colic is to be ascribed, and this conclusion has been completely borne out by observations covering a period of about six years. The effect of oleic acid in hepatic colic has always been uniform and remarkably good.

The acid may be given in capsules of 8 min. each, one to be taken morning and evening, for a period of one to two weeks. If necessary, 16 min. may be prescribed at a dose, and the acid taken for a prolonged time, with regular intermissions. In this manner, attacks of biliary colic may be prevented, and relieved when once established. This double efficiency is another valuable property of oleic acid.

The author insists on the prime importance of obtaining the pure product, as often fraudulent substitutes are dispensed. The following conclusions seem to be warranted:

(1) Oleic acid is a specific remedy for biliary lithiasis. (2) The remedy relieves promptly the pain of an attack of biliary colic, but its chief efficiency is shown in preventing the return of the paroxysm, by interfering with the further formation of stones. It is thus curative and preventive at the same time. (3) The single dose is 8 to 16 min. in capsules, one in the morning for ten days of the month, if the attacks recur monthly, or for fifteen days preceding the expected paroxysm. After continuing this treatment for some time it may be stopped.

Needless to say, the usual hygienic and dietetic régime in such cases should be strictly adhered to.

EXPERIMENTAL STUDIES IN TYPHOID FEVER

Dr. Romolo Polacco,¹ of the Hospedale Maggiore in Milan, reports on diagnostic and therapeutic experiments in typhoid fever. Concerning the diagnosis of the disease, modern methods have contributed largely towards enabling us to make it early and tolerably certain. Not so with the treatment of typhoid fever. Our therapy of the affection has failed to profit by the diagnostic progress, and still continues to be chiefly symptomatic or expectant, instead of attacking the source of the evil. The author,

having given an impartial trial to the various remedies and methods of treating typhoid fever, pins his faith to intestinal antiseptics, which has in his hands produced the best results, especially in private practice. Of all intestinal antiseptics, he has recently learned to rely solely on ichthoform. The action of this drug the author has demonstrated experimentally, as follows. Having established the diagnosis by means of Widal's test or by detection of bacilli in the feces, he began the administration of ichthoform in liberal dosage, 45 grn. daily for children and double the quantity for adults. The stools were examined from time to time, and showed a distinct numerical reduction of the bacillary colonies, as well as impaired development of the bacilli. With the disappearance of fever and the advent of solid evacuations the bacilli were invariably absent in the feces.

An important diagnostic lesson was also taught by these experiments—namely, the fact that Widal's reaction may be absent while typhoid bacilli are present in the feces. The latter feature must therefore be considered as the only certain diagnostic criterion.

The above-mentioned action of ichthoform on the bacteria of the disease gives the clue to the understanding of the drug's clinical effects, as reduction and disappearance of fever, subsidence and cessation of intestinal fermentation, and disappearance of indican in the urine.

The author's method of treating typhoid fever, as based on his experimental studies, may be outlined as follows: On admission to the hospital the patient is given 8 to 12 grn. of calomel, according to age and constitution. This dose is administered even if profuse diarrhea is present. If the temperature is very high an ice-bag is applied to the head. The diet includes the alternate administration of milk and beef-broth, together with about 5 oz. of ordinary claret daily. The treatment proper consists in large doses of ichthoform, 45 grn. daily for children and double this quantity for adults. The drug is given from the first or second day after admission. No other drug remedies are employed, with the exception of hydrochloric-acid lemonade, which is used freely as a beverage. In the later stages, when constipation occurs, a dose of calomel or magnesium citrate is prescribed.

As soon as the fever has permanently and completely disappeared, the dose of ichthoform is rapidly reduced about one-third, and with the advent of solid stools the drug is altogether discontinued. Under this treatment the intestinal as well as the constitutional symptoms are efficiently held within

¹ *Wien. med. Presse*, 1901, Nos. 24, 25 and 26.

safe limits. No excessive tympanites, no delirium, excitement, or hallucinations need be feared.

When we bear in mind the action of ichthoform on the bacillary colonies in the intestinal canal, before described, we shall readily understand the amelioration of clinical symptoms. The development of the bacilli and the formation of toxic products in the intestines being held in check, the diminished severity of the general intoxication and infection is the natural result.

In grave forms of typhoid fever, tending towards pulmonary complications, high fever, and bed-sores, the author employs, in addition to ichthoform, baths medicated with ichthyol, about 2 oz. to each warm bath. The effects are restful sleep and improvement of the pulmonary condition. Two or three baths, given every other day, are generally sufficient. More than six were never required.

The author draws the following conclusions from his experiments: (1) The bacteriological examination of the feces is an important diagnostic aid, especially in the beginning of typhoid. (2) Cases with a negative Widal-test and not supported by a bacteriological examination of the feces, cannot be considered as typhoid fever. (3) Intestinal antiseptics is the treatment indicated. (4) The best intestinal antiseptic is ichthoform, which has an almost specific action in typhoid fever. (5) Ichthyol baths are efficient in bringing about restful sleep and preventing pulmonary and cutaneous complications.

GANGRENE AFTER CARBOLIC ACID

Dr. John G. Sheldon¹ reports a case of gangrene following the use of carbolic acid. The patient, a colored man of thirty-seven, was admitted to the hospital, complaining that his left foot was "cold and dead." Eight days previous to that he noticed a "sore" on one of his right toes, and a physician gave him a dilute solution of carbolic acid for it. This solution he inadvertently spilled on his left foot, and five days later the foot began to feel benumbed, and soon became painless and dead.

On examination, it was found that the left toes and foot, up to the medio-tarsal joint, were gangrenous. The tissues about the ankle were swollen and edematous and also showed beginning gangrene. No evidence of syphilis could be found. Urine was normal. Patient well-developed and well-nourished.

The leg was amputated at the middle.

The gangrene spread, however, assumed the moist type (it was dry at first), and in two days reached the knee. A second amputation of the thigh gave better results and the patient recovered.

Cases of gangrene after the local use of carbolic acid are reported often enough to enjoin the utmost caution in employing the drug, especially when it is applied in such a manner as to make evaporation impossible. No satisfactory explanation of the occurrence of the gangrene can at present be advanced. As to treatment of carbolic-acid gangrene, prophylaxis is most important. The acid should never be applied without providing for its evaporation. Once established, the process requires radical measures. Amputation is very often necessary. Dr. Porter saved a finger by skin-grafting.

THE ACTION OF DIONIN

Of all the recently introduced morphine derivatives, dionin is, according to the experience of Dr. Rudolph Schmidt,¹ the very best. It has already succeeded in gaining for itself a permanent place in our therapeutic armamentarium. Having tried it in various cases of diseases of the respiratory organs, such as pulmonary tuberculosis, chronic bronchitis, emphysema, asthma, acute bronchitis and pneumonia, etc., the author has become convinced that it is superior to morphine and codeine, and is free from deleterious effects on the heart and respiration. The author also tried dionin in combination with creosote carbonate (creosotal) and oil of sweet almonds in an epidemic of whooping-cough, and the results were highly gratifying. Not only did the attacks become milder and less frequent, but the disease ran a shorter course and was without complications. Of course, a good deal of the credit must be given to the creosote carbonate.

The author concludes as follows: "From my observations in hospital as well as private practice, which number into the hundreds and all of which are in accord with those made by other clinicians, we must conclude that we possess in dionin a remedy which exhibits the narcotic and sedative effects of the morphine without sharing any of its disadvantages, and which may be administered without harm in every form of bronchitis or pneumonia (as well as other respiratory affections). It does not depress the respiration or cardiac action, and last but not least, it does not suppress expectoration, but, on the contrary, it aids it, acting as a distinct expectorant."

¹ *Med. Record*, L.X., No. 20.

¹ *The Alkaloidal Clinic*, 1901, No. 12.

TREATMENT OF CANCER OF THE BREAST

It was Dr. Geo. T. Beatson,¹ of Glasgow, who some years ago introduced a new treatment of carcinoma of the breast, consisting, namely, in oöphorectomy and internal use of thyroid extract. The same author now reports his further experience with the method.

In one case—that of a woman aged forty-four afflicted with carcinoma of the breast, and in whom operative removal of the growth was out of question—an oöphorectomy was proposed and accepted. The ovaries were found to be cystic and were removed. About ten days after the operation thyroid extract in daily doses of 5 grn., increased to 15 grn., was administered. The tumor of the breast gradually diminished in size and vascularity under this treatment, and the glandular swellings disappeared. These changes showed themselves soon after the operation. The general health also improved. When the author saw the patient six months after the operation, he found an interesting and remarkable local condition. The large and tense mamma which had been on the verge of ulceration had disappeared, and was replaced by a small, flat, cicatricial mass. The mass was still surrounded by a few small hard nodules, but the adjacent skin was free from disease, and the glandular enlargements in the axilla, above the clavicle and up to the posterior border of the sterno-cleido-mastoid muscle had entirely vanished. No evidence of any visceral disease could be detected. It may be added that the diagnosis of cancer was confirmed by microscopical examination of an excised portion.

Similarly brilliant results had been reported by others; for instance, by Dr. Herman in the *Lancet* (June 11, 1898), who performed oöphorectomy in a case of inoperable cancer of the breast, and followed this up with thyroid extract. The patient recovered completely, and is still well.

Taking the success of the method for granted, what may we conclude from the experience? The author thinks that the above facts must have an etiological bearing as well as a therapeutic one, and they certainly do speak against the parasitic theory of cancer, and in favor of the author's original hypothesis, that the reproduction or proliferating power of the cells of the body is not lost after embryonic life, but is kept in check by the healthy ovaries. As soon as this control is interfered with by changes in the ovaries, then the cells in any part of the body under ovarian influence may resume the early reproductive power and proliferate.

This view is well supported by an interesting experiment of Dr. Lack. Departing from the conception that the epithelial cells of cancer are alone the infective agents, this author obtained an emulsion of epithelial cells from the healthy ovary of a rabbit and placed them into the animal's peritoneum. Fourteen months later, when the rabbit died, typical cancerous growths were found in the abdomen and thorax. The spontaneous cure of breast-cancer sometimes seen after the menopause is possibly another exemplification of the interaction between ovaries and carcinoma.

As to thyroid extract, some condemn its use while others uphold it. The author thinks the clinical evidence is in its favor. He has known it to do good in cases where it was given without an oöphorectomy being done. It is not tolerated by all, however, but when it is well borne, it exerts a powerful influence on metabolism and acts favorably on the lymphatic system. The author has given it in doses as large as 250 grn. daily, but prefers small quantities, increased up to 15 grn. daily.

What are the indications for oöphorectomy and thyroid extract?

The result will depend, says the author, on the presence or absence of secondary organic metastatic deposits. If the liver, the lungs, or any other organ is affected by a secondary growth, an oöphorectomy with thyroid will not influence that secondary deposit. In such cases, then, the operation is contra-indicated. It is apparent from these considerations, that the prospects of cure are very much the same in local operation as in oöphorectomy; but while the former offers such great difficulties in the way of total extirpation, the latter is free from this drawback, as well as from any danger of cell dissemination by the opened lymphatic spaces and blood-vessels of the wound.

MERCUROL IN SYPHILIS

W. Ayres¹ gives an experience with mercuriol given in tablet form in 180 cases of syphilis. The writer's plan was to increase the medicine steadily from 1 grn. until the symptoms were controlled, or until there was a slight tendency on the part of the teeth and gums to become tender. If the symptoms were not controlled before the physiological effect of the mercury made itself felt, small doses of potassium iodide were added. The writer says that he has found mercuriol to be the most satisfactory form of administering mercury in cases of syphilis, and now uses

¹ *Brit. Med. Jour.*, Oct., 19, 1901.

¹ *Lancet*, Oct. 19, 1901.

the drug to the exclusion of all others in his practice. He says that he finds it is a rule in private practice that a dose of 2 or 3 grn. a day is all that patients can stand or require.

PHYSOSTIGMINE IN ATONY OF THE BOWELS

The power of calabar bean to excite contractions of the intestinal musculature has been utilized only in veterinary practice, where physostigmine is employed as a subcutaneous laxative. Prof. C. von Noorden¹ has had opportunities of using the drug in man, and his results are in harmony with those obtained on animals. In one case a physician had been operated upon for inguinal hernia. Eight days after the operation a condition of excessive flatulence supervened, which threatened the patient's life by interfering with the circulation and respiration. Physostigmine was ordered in doses of $\frac{1}{120}$ grn. thrice daily, and during the very first night flatus was freely passed and the tympanic abdomen collapsed to about the normal size.

The drug was also given in the tympanites of typhoid fever, with excellent results, while it is well known how uncertain our other remedies are in this unpleasant complication of typhoid. The flatulence of peritonitis was also promptly relieved by physostigmine.

It is hardly necessary to add that great care is required in the dosage of so powerful a drug. The maximum dose is estimated at about $\frac{1}{60}$ grn., and the largest daily quantity at $\frac{1}{20}$ grn. One-fourth of these amounts will suffice to begin with, and the doses may then be cautiously increased. Any untoward symptoms can be combated with atropine, which is a well-established antagonist of physostigmine.

The author prefers the salicylate of physostigmine for internal use, to be given in powders with some sugar of milk. Powders that have assumed a red color should be discarded. He also advises further trial of the drug, which, he regrets, has been nearly forgotten outside of ophthalmology.

TREATMENT OF LUPUS

Dr. Herbert Snow² describes a novel method of treating advanced lupus, a method which has shown itself efficient in cases not cured by repeated operations. The great desideratum is to remove completely the diseased tissue, otherwise a recurrence will take place. This purpose the author accomplished by first scraping away most thoroughly the soft cell growth, and apply-

ing to the raw surface, as soon as bleeding has ceased, lint soaked in linimentum iodi. The latter is removed next morning, and an emollient dressing substituted; after this a recurrence is most rare.

The underlying principle is to cause such local inflammation, after first removing the accessible diseased tissue, as will effectually kill all residual cells and bacilli.

When the nares are involved, iron lint (lint soaked in liquor ferri chloridi) is a valuable application in place of the iodine. Plugs left in after erosion will arrest the bleeding and destroy all residual growth.

The author warmly recommends his method, especially for advanced cases which have resisted all other measures, and gives brief reports of ten cases.

[Lin. Iodi contains nearly twice as much iodine as the tincture, together with potassium iodide. The vehicle is glycerin, water, and alcohol.—Ed.]

EUQUININE A PROPHYLACTIC IN MALARIA

Dr. A. Mori¹ reports that euquinine in doses varying from 4 to 8 grn. a day is capable of preventing malaria in those not protected by living in mosquito-proof houses. It is advisable to begin treatment four or five months before the usual malarial season. He reports, further, that in a series of observations on eighty-nine individuals under similar circumstances, that in forty-two who had been under treatment only five contracted malaria, while in forty-seven who were not so treated thirty-nine suffered. The five who contracted the disease had it in a mild form.

THE TREATMENT OF PNEUMONIA

At the Eighteenth Congress of Medicine held in Wiesbaden, a discussion took place on the treatment of acute pneumonia. Prof. de Koranyi,² speaking of the modern scientific attempts to treat pneumonia with serum, considers it worthy of further investigation, although its specific effect on the disease has as yet not been demonstrated. The serum, at any rate, does not seem to do harm, and sometimes it appears to benefit the patient. The use of pilocarpine, antipyrine, nuclein, etc., drugs intended to bring about a leucocytosis and thus imitate the natural tendency in the disease, are of no value in its treatment.

To re-establish normal conditions, oxygen is recommended, while bleeding is reserved only for cases of intense pulmonary hyperemia, with or without edema, associated

¹ *Berliner klin. Woch.*, XXXVIII, No. 42.

² *Brit. Med. Jour.*, No. 2126.

¹ *Amer. Jour. Met. Science*, Oct., 1901, p. 489.

² *Bull. gén. de Thérap.*, CXLI, No. 10.

with cardiac and respiratory failure. In such cases the pulse gains in strength after venesection, which may thus prove a life-saving measure. As to infusions of salt solutions, with or without blood-serum, the author considers them useful in ischemia of the left ventricle and as a diuretic measure, favoring the elimination of toxic substances. Digitalis, alcohol, opium, the antipyretics, and ice are all, according to the author, of doubtful utility, since they have not found favor with the most experienced clinicians.

Hydrotherapy, on the other hand, is the method he endorses. But, generally speaking, while our modern treatment is able to relieve grave symptoms of pneumonia and save life occasionally, we are still in search of a method that would cut short the duration of the disease and markedly influence the mortality.

Prof. Peř, who spoke next, pointed out the difficulty of estimating the value of any particular method of treatment in a disease subject to such variations as pneumonia. In most cases nature produces a cure without medical intervention. The system fights the enemy with weapons of its own, and the leucocytes seem to play an important rôle in this battle, as shown by the pressure of hyperleucocytosis in the disease. A similar condition of increased fibrin in the blood accompanies pneumonia, and both changes are possibly connected with the elevation of temperature.

Thus, the great part played by the natural resisting powers of the patient becomes evident and is of more importance than our therapeutic attempts. However, an efficient remedy is very desirable in pneumonia, when it attacks an impaired organism, as is the case with the aged, the nephritic, diabetic, drunkards, etc. But we possess no remedy capable of shortening or directly influencing the disease. Individual measures may, nevertheless, be useful, such as venesection, quinine, digitalin in small doses, etc. The less the physician interferes with the regular course of pneumonia, the greater the chance of a favorable termination.

Great cough-irritation and pain may be relieved by Dover's powder or injections of morphine. Irregular cases often require stimulation, and in this respect alcohol deserves honorable mention. But the most valuable stimulant is camphor. At first it should be used in small doses, to be pushed as life is endangered, and given preferably in combination with ether by hypodermic injections. Sponging of the body is an agreeable and useful procedure, while antipyretic drugs are to be discarded, as high

temperature is not in itself dangerous. Quite the contrary, fever is probably a reaction by means of which the system fights the disease.

In the discussion that followed and was participated in by many prominent physicians, hydrotherapeutic measures seemed to have the preference over drug treatment.

EUCALYPTUS AGAINST MOSQUITO LARVÆ

Efficient prophylactic antimalarial measures require the destruction of mosquito larvæ. After trying numerous antiseptics, petroleum oil was found to be the only agent that could be relied on for the destruction of the larvæ. Dr. W. R. Battye,¹ experimenting with kerosene oil, found it not altogether so efficient, and decided to try eucalyptus oil. The effect was instantaneous in killing the larvæ, as well as the mosquito.

Of course, the high price of eucalyptus oil will prevent it from superseding kerosene on a large scale, although much smaller quantities of the former are required, and it seems to be more rapid and deadly in its action.

THE MEDICINAL TREATMENT OF ADENOIDS

At a recent meeting of the Society of Pediatrics of Paris, Dr. Lapeyre² spoke very highly of the treatment of adenoid vegetations by means of iodine. He saw disappear under iodine treatment even large vegetations, thus sparing his little patients a surgical operation, which is very far from being as harmless as some would make us believe. Dr. Lapeyre administers tincture of iodine, commencing with 6 drops three times a day (for children from five to nine years) and rapidly increasing to 60 drops. This large dose of 180 drops per day was well borne; in only 4 per cent. of the cases was there gastric disturbance, but of a mild character. Dr. Sevestre reported that he obtained excellent results with the administration of iodized wine and the instillation of menthol dissolved in oil in the nasal cavity. At the same meeting Dr. Variot mentioned that Parrot had also treated adenoids by means of iodine. He used a formula consisting of 6 Gm. of tincture of iodine, 6 Gm. of potassium iodide, and 1 litre of wine.

[We have been unable to obtain details as to mode of administration. It seems scarcely possible that a teaspoonful of tincture of iodine was given the children, undiluted.—ED.]

¹ *Brit. Med. Jour.*, No. 2426.

² *Münch. med. Woch.*, Oct. 8, 1901.

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JANUARY, 1902

EDITOR'S NOTES

Vegetarianism

WHETHER a vegetarian diet, in conjunction with eggs and the products of the dairy, is compatible with the highest possible mental and physical development, is a question the answer to which is still shrouded in uncertainty. In spite of the claims of the adherents of animal diet on the one hand, and of the vegetarians on the other, that the question has been definitely settled, we make bold in declaring that a careful study of the subject justifies us in stating that such is not the case. It is true each side has "positive facts" and "incontrovertible arguments," but those facts and arguments are vitiated by the positive facts and incontrovertible arguments of the other side. That the individual vegetarians are generally in good health is no argument at all; because, first, they lead a temperate, hygienic life in general, and are of higher intelligence than the general average. Besides, thousands and thousands of meat-eaters can easily be found, who in tests of physical strength and endurance would defeat the vegetarians.

But aside from the scientific, physiologic side of the question, vegetarianism has another side—the esthetic or sentimental. It is from this viewpoint that the teachings of vegetarianism should appeal—so it seems to us—to every civilized being. To refined sensibilities it does seem abhorrent to have to murder the poor, innocent animals that have done us no harm and that, most probably, have a good deal in common with us. How many of us would care to eat meat, if

in each case we had ourselves to kill the chickens, lambs, calves, etc.? And isn't it cruel and hypocritical to commission others to do things from which we ourselves shrink in horror? It is surely, therefore, not a sickly sentimentalism that prompts the hope that, as the ages go by, the killing of animals will become more and more limited and the slaughter-houses become a thing of the past. Perhaps synthetic chemistry will give us a nitrogenous food which will effectively replace animal flesh.

* * *

BUT, as we have had occasion to remark several times before, some of the best causes are made odious by the immoderate language and ill-chosen arguments of their thoughtless and overzealous disciples. On the one hand, vegetarianism is made ridiculous by those extremists who say that we have *no right* to use milk or its products, to eat eggs, wear leather shoes, etc.; on the other hand, it is made extremely offensive by the epithets thrown at the flesh-eaters and by the vegetarian attitude in general. Here are, for instance, some typical extracts from vegetarian propaganda:

"The same Creator that made man also made the animals, and God gave His life, wisdom, and intelligence to each class of creatures as they might need; therefore to take the life of any one is *as much a case of murder* as that of the other (man). . . . Do they kill animals and eat dead flesh, use tobacco, drink tea, coffee, liquor, etc., in heaven? . . . How would you like if the fish would conceal an iron hook in some food to snap your brittle thread of life from you, as you do the fish, or shoot your mother and let you starve, as many do the birds for sport? [This is unfair, because there are many flesh-eating people who abhor killing for sport.] For very shame! Flesh-eating is an act of barbarism, cannibalism, inhuman and ungodlike. . . . If you knew the evils resulting from flesh-eating you would shun it as a viper. . . . Flesh-eating *is the direct cause of all war, murder, life-taking, bloodshed, sickness, lust, drunkenness, sin, crime, and every evil.* . . . Could you see the horrors of the spirits [Has the writer seen them?] suffering for their transgressions on earth, just for a few moments, your blood would run cold, and to save man from this awful state and condition by portraying to him the terrible effects of flesh-eating, I write and that too without money or price"—and so on *ad nauseam horribilem*. Wouldn't such rot have the contrary effect to the one expected, on every rational being?

Nothing New Under the Sun

IT seems that there is really nothing new under the sun. Many remedies which we are apt to consider "new," would, on careful research, be found to have been used or recommended many decades or even centuries ago. When Carnot reported in 1896 on the hemostatic properties of gelatin, we all thought that we had to deal with an absolutely new use of an old agent. While the *method* of the employment of gelatin as a hemostatic is new, it is said to have been used in this connection in the beginning of the nineteenth century, and in a text-book published in 1838 ("Hecker's Praktische Arzneilehre"), a solution of isinglass is distinctly recommended as a useful remedy in epistaxis and uterine hemorrhages.

In ancient Egypt the rat was the symbol of the plague. In several places in Asia the plague is called the "rat disease." Modern bacteriology is on the point of demonstrating the connection between the ugly rodent and the terrible pest. What is it? Coincidence, or weren't our ancestors such fools after all? Yes, it does appear that we are assuming a rather too condescending tone in speaking of the "ancients."

* * *

The Cure of Cancer

THERE is no disease, tuberculosis not excepted, which so deeply and earnestly engages the attention of the medical profession—both the clinicians and the scientists—as does cancer. And the reason is easy to find. In tuberculosis we have already achieved very notable results; we have a perfect right to proclaim it a curable disease, because the proportion of first-stage consumptives whom, under rational and especially sanatorium treatment, we are able to cure permanently is now very large and is getting larger from year to year. Not so with cancer. Regarding its etiology we are in complete and *absolute* darkness—the word *absolute* is italicized deliberately, with a full knowledge of what has been done in this field by every American and foreign investigator up to date. But this would not be such a misfortune, provided we only possessed a more or less effective therapy, even if it were of a purely empirical character. As we have pointed out before in the columns of the ARCHIVES, ignorance of the rationale of a treatment should not, and as a matter of fact does not, prevent us from employing such treatment. We are still in ignorance of the true specific cause of syphilis, but this does not prevent us from curing our patients in a most striking and effective manner. Unfortunately, it is not the case with cancer. We are just groping

in the dark. We operate when the disease has not yet made too extensive inroads, we apply the cautery, we employ electricity, we inject Coley's fluid, we apply caustics, we try various remedies, such as thyroid, condurango, pyoktannin, methylene blue, quinine, etc., and while we undoubtedly afford our patients a great deal of relief, the cases which have been *permanently* cured are lamentably, too lamentably, few. And it is certainly not merely a piece of rhetoric to say that he who should discover a true cure for cancer would become immortal; statues would be erected to him in every corner of the globe and his name would be remembered and honored as long as this planet would endure.

* * *

Irrational Drug Treatment

OUR readers will agree with us that it would be superfluous for us to state that we are believers in medicinal therapeutics. But believing in the beneficial action of drugs when properly and intelligently administered, need not at all debar us from vigorously protesting against their improper and indiscriminate administration. On the contrary, just because we are believers in drug therapeutics we are anxious not to see it thrown into disrepute by its unwise followers. How unwise some physicians may be, the following case illustrates. Before a class of the Post-Graduate Medical School Dr. A. Caillé recently demonstrated a case of resorcin poisoning in a child *five days* old. The infant developed a dyspeptic diarrhea soon after birth, probably from overfeeding at the breast. Instead of cutting off the breast milk for a short time and feeding on farinaceous water, so as to give nature a chance to readjust itself, drugs were administered. Calomel, lactopeptin, bismuth, and salol were given in succession. There being no improvement, resorcin was ordered in $\frac{1}{4}$ -grain doses every four hours. After the sixth dose the child became cyanotic, pulseless, cold and clammy, and the urine became smoky in color. Under intelligent medical attendance—hot bath, hot water packs, flushing the bowels with warm saline solution, etc.—the infant recovered. Now, drugging an infant three to four days of age with powerful drugs is malpractice, pure and simple, and even (un) Christian (non) science is, we think, preferable to such pernicious activity. The above incident also corroborates the statement we made some time ago, that resorcin should be eliminated from the treatment of very young children. We have come across several cases of un- toward or fatal effects.

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

Schleich's Solutions and Method of Infiltration Anesthesia

T. J. writes: Please state in the next issue of the ARCHIVES, what is the formula of Schleich's solution used by hypodermic injection to produce local anesthesia. Have seen it mentioned in several medical journals as an efficient remedy. Please answer in detail.

The ordinary solution for infiltration anesthesia, which is understood when Schleich's solution is referred to without any other specification, has the following composition:

| | | |
|---------------------------------|------|---------------|
| Cocaine Hydrochlorate..... | 1. | Gm. |
| Morphine Hydrochlorate..... | 0.25 | Gm. |
| Sodium Chloride, Pure..... | 2. | Gm. |
| Sterilized Distilled Water..... | 1000 | Cc. (1 liter) |

To prevent decomposition, 20 drops of a 5-per-cent. solution of carbolic acid are added to each liter of the solution. But even with that addition the solution decomposes quite rapidly, and it is therefore best to make up in small quantities and at frequent intervals. A convenient formula, and in the apothecaries' system, is the following:

| | | |
|-----------------------------------|--------|--------------------------|
| Cocaine Hydrochlorate..... | 2 | grn. |
| Morphine Hydrochlorate..... | ½ | grn. |
| Sodium Chloride..... | 4 | grn. |
| Steril. Dist. Water..... | 2000 | min. (or 4 oz., 80 min.) |
| Solution Carbolic Acid (5%) | 2 to 3 | drops |

The above solution is known as the normal or medium solution, or solution No. 2. There is a stronger solution (No. 1) and a weaker solution (No. 3) of the following composition:

STRONG SOLUTION, OR SOLUTION NO. 1

| | | |
|---------------------------------|------|-----|
| Cocaine Hydrochlorate..... | 2. | Gm. |
| Morphine Hydrochlorate..... | 0.25 | Gm. |
| Sodium Chloride..... | 2. | Gm. |
| Sterilized Distilled Water..... | 1000 | Cc. |

WEAK SOLUTION, OR SOLUTION NO. 3

| | | |
|---------------------------------|------|-----|
| Cocaine Hydrochlorate..... | 0.1 | Gm. |
| Morphine Hydrochlorate..... | 0.25 | Gm. |
| Sodium Chloride..... | 2. | Gm. |
| Sterilized Distilled Water..... | 1000 | Cc. |

It is well to call attention to the fact that the difference in the three solutions is only in the quantity of cocaine, the "strong" solution containing twice as much cocaine as the normal, and the "weak" solution ten times less than the normal; the amount of morphine and sodium chloride being the same in

all three solutions. But we can get along very well with the normal solution alone. The strong and weak solutions are to be used only exceptionally—the former, for instance, in severe acute inflammation; the latter when it is necessary to infiltrate very large areas of tissue, and when 1 or 2 pints of solution may be required. Of the strong solution, 1 to 2 oz. (30 to 60 Cc.) may be used during one operation, and of the weak one 8 to 16 oz. (250 to 500 Cc.); while of the normal or medium solution from 3 to 4 oz. (90 to 120 Cc.) may be injected at one sitting.

Now, as to the method of using the Schleich solution. The point one wants to have strongly impressed upon his mind is that he is *not* to make a *hypodermic*, but a *dermic* injection; the injection is *not* to be made *under* the skin into the cellular tissue, but *into* the skin itself (or into the deep tissues, as the case may be). The needle is therefore not to be held perpendicularly or obliquely to, but almost parallel with, the skin. After pressing the piston evenly and gradually, you will notice a round white spot, *absolutely* anesthetic, the so-called wheal. The original direction of Dr. Schleich was to withdraw the syringe after the wheal reached the size of about a penny, reinsert it within the radius of the first wheal, inject until a new wheal is formed, withdraw, reinsert again, etc., until the entire area where we intend to operate has been infiltrated. This is unnecessary. With a strong syringe and needle we are able with one insertion to form a wheal two or three inches in length, and in any desired direction. As to the syringe, the ordinary hypodermic may be employed. But where the field of operation is a large one, in order to save time, labor, and unnecessary puncturing, a strongly made syringe is advisable. The syringe should hold 6 to 15 Cc. (1½ to 4 drams) and should be provided with strong large needles, some of them curved. The procedure of injecting is absolutely painless—pain is felt only at the first insertion of the needle, but even this can be done away with by touching the point of insertion with pure carbolic acid (by the aid of a toothpick or a bit of cotton on a cotton-carrier). The effect of infiltration anesthesia lasts fifteen to twenty minutes and is absolute. In conclusion, we might say that the Schleich infiltration anesthesia is not an experiment, but a well established procedure, and in many European hospitals it is used exclusively for all minor operations, and quite frequently also for major ones.

There is also a Schleich mixture for general anesthesia. It is a mixture of ether, alcohol, and rhigolene or petroleum ether. This has not found general favor with the profession.

Extraordinary Specific Gravity of Urine

H. W. S. writes: I have an extraordinary case, in which I should like to ask your assistance. It is a case in which the urine has a specific gravity of 1.096, something that I have never seen before.

The history of the case is as follows: A married woman, aged thirty-six. Family history good; bowels regular; heart weak, but regular; however, she becomes cyanotic on exertion of any kind. Dyspnea on stooping over, also cannot take warm bath, as warm water causes dyspnea and a feeling as though fainting. At times complains of a feeling of great weakness. No fever; however, at times temperature is a little sub-normal.

The part that worries me most is the urine. Examination of urine shows specific gravity 1.096, and it never has been less than 1.030 in the past five years; alkaline in reaction; no traces of sugar or of albumin; phosphates in excess; color is of a light amber. The amount voided is about the normal quantity. However, some days it will be slightly in excess. This patient is the wife of a doctor, and the history as given is correct. Kindly give diagnosis and treatment, also tell where I can get literature on the subject.

We read the above report with great interest. The positive statement that there is no sugar in the urine of course excludes diabetes mellitus. There remain two other conditions: phosphaturia and baruria. The specific gravity speaks against simple phosphaturia, while both the specific gravity and rather normal amount of urine speak against that variety of phosphaturia which Tessier has named "phosphatic diabetes." By exclusion, we are therefore confined to the diagnosis baruria, and the entire symptomatology is in favor of this diagnosis. This rare disorder, which etymologically means heavy urine and to which in Europe the characteristic name "demineralization" is applied, consists in an enormous increase of *all* the urinary solids; not only the phosphates, but the urea, chlorides, and sulphates are largely increased. However, the specific gravity of 1.096 is something extraordinary.

Treatment.—While there is no specific treatment, much can be done by general hygienic measures. One of the most important points is *rest*. The patient should go to bed very early and should rise late. All active work or exercise should be forbidden. Tolerably large doses of opium or codeine are useful in diminishing the excretion of the solids. In the way of general tonics, cod-liver oil, nux vomica, hydrochloric acid, and quinine are useful. Ar-

senic seems to be especially indicated. Tepid douches (not baths) of sea salt water have been recommended. But rest, as said above, is the most important factor, because the disorder seems to be due to a heightened tissue metabolism, and rest and opium are necessary to counteract it.

Safety of Ethyl Bromide

Dr. M. W. L. asks for information regarding ethyl bromide as an anesthetic; its dose, safety, etc., with special reference to its employment in dentistry.

Ethyl bromide is considered one of the safest anesthetics we have for short operations. The literature on this product is quite extensive, but we would refer to the latest article on the subject, which appeared in the *Medical Record* for November 2, 1901, from the pen of Prof. J. W. Gleitsmann, of New York. He has been using ethyl bromide since 1894 for the removal of tonsils and adenoids, and is extremely satisfied with his results. He states that he has used it in at least 500 operations and has never had a serious or alarming accident.

As to the dose, authors differ somewhat: Texier, for instance, advises against a complete narcosis and operates in the state of analgesia preceding it. He never gives more than 10 Gm. to children of fifteen years of age, and leaves the mask in place from fifteen to thirty-five seconds, never longer than forty seconds. But for obtaining a complete narcosis, about 30 Gm. or 1 oz. is generally required. Of course, this refers to operations on the throat which are much more prolonged than those of teeth extraction: in the latter case much smaller doses are required. The mask Dr. Gleitsmann has invented excludes the air almost completely and is slightly pressed over the child's nose and mouth. He has used Merck's ethyl bromide, and states that their 1-oz. glass tubes serve the purpose admirably, giving very little waste.

All those who have used ethyl bromide for anesthesia agree upon the great care which is absolutely necessary to procure a pure product. For instance, Prof. Eman. of Ghent, states in the Transactions of the Sixth International Otological Congress (1900, p. 59) that he used ethyl bromide for anesthesia in removing adenoid growths in children, and adds that it is necessary to use an absolutely pure drug, such as the ethyl bromide which is furnished by the house of Merck. An extensive paper on ethyl bromide is one by Dr. A. W. De Roaldes, entitled "Bromide of Ethyl as an Anesthetic in Otorhinological practice."

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

A Better Knowledge of Therapeutics a *Desideratum*.—In an article on "The Teaching of Therapeutics," by Professor Rotch, of Harvard University, attention is called to a department of medical study that is too frequently neglected and often insufficiently studied of all the fields of medical knowledge. The subject of therapeutics as taught and studied in a majority of the American medical colleges falls far short of the thoroughness that is bestowed upon other branches of the medical curriculum and results in a condition that places the young medical graduate at a serious disadvantage in the early years of his practice. There can be no question regarding the value to the student of laboratory study of the action of various drugs, both chemical and therapeutic, as a broad basis for the later clinical study at the bedside, and Professor Rotch justly lays proper emphasis upon this as a preliminary necessity for a thorough appreciation of its effects in a later study upon the human being. Rotch pertinently calls attention to a number of faults in the present and too common method of teaching therapeutics when he says that too little attention and time are given to the elementary principles of therapeutics in comparison with that given to the other primary branches of medicine and surgery; and again as a result of this scanty knowledge of therapeutics the young practitioner too often becomes a believer in the efficacy of a drug on the strength of claims that are made for it not wisely but too well, and too frequently he is unable to distinguish the good from the bad owing to his lack of a thorough knowledge of its therapeutic effects. His objection to the laboratory teacher attempting to give the clinical side of the subject for which he is often unfit from the lack of continued clinical experience, is noteworthy, as is that of the clinical teacher who, after making an elaborate diagnosis dismisses the question of therapeutics in a few words. Too frequently other therapeutic measures than drugs are entirely overlooked, and of these none has a more important place than diet, particularly that of infants, which is too often but briefly mentioned.

Rotch adds at the close of his article that too little instruction is given to the student in the simple and common sense details connected with the administration of drugs. These are wholesome truths and one of which many a young practitioner fully realizes the need after a short time in general practice.

There is nothing so essential to the physician as a thorough knowledge of therapeutics, and there is probably not one subject in the science of medicine of which the study is so incomplete.—*Courier of Medicine*.

Indigestion and Sin.—A prominent surgeon who holds certain eccentric opinions in regard to dietetics is reported to have said that "total depravity is often nothing more than total indigestion." There is less wisdom in this statement than some might think; it is one of those utterances that catch the vulgar and is consoling to those who have good digestions, but who do not feel otherwise safe as to their salvation. Dyspepsia may make a man unpleasant in some ways; it is apt to aggravate any existing sour-

ness of disposition, but in its more pronounced forms it has, at least, a tendency that leads its victims to appreciate the vanity of earthly things. The Frenchman's recipe for happiness—"a good stomach and a bad heart"—agrees better on the whole with the natural depravity of mankind, as we see it in daily life. If we sum up and average human villainy, we will probably find that the dyspeptics have not been the greatest criminals, and if we were to poll the sufferers from gastric symptoms we would not find among them any undue proportion of depravity. In fact, it is the cheerful happy-go-lucky individual that creates the most trouble; he is the one who yields to all the pleasant vices; he does not pay his debts, but lets the other fellow walk and worry and he cultivates egoism generally. The smooth, calculating villain is also a non-dyspeptic, and if we take the mass of pleasant, benevolent-looking visages we would probably find that they do not necessarily attend any special corresponding virtues, but often simply mean that the wearer has been good to himself. They may also mean a sort of dementia; this is perhaps as often as not the signification of the look of peace and content so coveted by female eddyites and such. The strenuous life that we talk of and that most of us are obliged to live, is not specially conducive to placid looks, and still less so with the more or less abdomino-visceral disturbance that is often its accompaniment. The opinion quoted as correlating total depravity and indigestion may be taken as a sample of statements that are more epigrammatic than sensible.—*Jour. A. M. A.*

Taking Cold.—Some remarks recently made by Professor Clifford Allbutt in regard to the influence of chill as a cause of disease serve to illustrate how quickly the pendulum of medical fashion swings as new ideas gain currency in the minds of medical practitioners. Time was when all sorts of ailments were with the utmost confidence attributed to "chill," and when physicians in gravely putting down the origin of colds, pneumonias, and fevers of all kinds to this cause, did so without the slightest suspicion that they were talking nonsense. Then came the time when with one accord the profession bent the knee before the microbe. In proportion as we accepted the theory that febrile and even other maladies were due to germs and micro-organisms, it seemed absurd to talk of chill as provocative of such ailments. We laughed at the ignorance of our fathers, and if here and there a few of us, being skeptical, still talked of chill as an efficient cause of illness, we spoke with bated breath, for the microbe held the field alone. Then came the turn of the tide. It soon became evident that these wonderful germs were present in all sorts of unexpected places, and that if they really possessed the powers which some had attributed to them we ought all of us long ago to have been dead men. So we looked around for "predisposing" or contributory causes, influences by aid of which the microbes were enabled to take root, and among these we soon found our old friend "chill." As Professor Allbutt says, clinical physicians in their respect for bacteriology had of late rarely ventured to invoke chill and the like as causes of pneumonia, pleurisy, dysentery, and so forth; but, as things were now, he would urge that, so far from being remote, these might often be the immediate causes—so-called exciting causes; in other words, that of a score of persons carrying morbid bacteria about them only the few subjected to a chill may develop the disease.—*Hospital*.

The Man in the Crystal Urn.—The very curious exhibition of the man in the "crystal urn" which is now going on at the Royal Aquarium, is on a somewhat different footing from those of the various fasting men and fasting women that we have become so accustomed to of late. Papuss is a South American, aged thirty-four, who, after being wrapped up in 400 yards of flannel bandage, has been placed in a glass box or "crystal urn," which has then been sealed up water tight, and sunk under water, where we suppose it now lies. The man, meanwhile, is supplied with air by means of a tube through which it is driven by an electric fan, but with nothing else, neither food nor water, and there he is to lie for the whole week. That this is a performance demanding very considerable endurance and fortitude no one will deny, even though the man in the urn be assisted, as he claims to be, by his power of sending himself into a cataleptic trance, and by auto-suggestion as to the unreality of hunger and the non-necessity of food. What is of some scientific interest, however, is the statement that by aid of the careful and rather tight bandaging the circulation can be so limited as to exercise a considerable influence upon the tissue waste and presumably, therefore, on the necessity for water for excretory purposes. We know, of course, that in hibernating animals the circulation goes on in a very modified way, being reduced almost to zero, probably in consequence of an influence exerted through the vaso-motor nerves, and if it could be shown that a somewhat similar though only local limitation of vital changes can be effected by external pressure, the matter would be one of very considerable interest. It will be recollected that attempts have been made from time to time, with more or less success—generally less—to control inflammatory processes by this means.—*Hospital.*

Idleness.—What best to do in idle moments is a question which probably too few stop to intelligently consider. The habitually idle man has no time to devote to the consideration of such abstruse questioning. "He is joined to his idols, let him alone." But idleness is condemned even by idle people. It is denounced in the proverbs of many languages as the beginning of sin, the devil's bolster, the key of beggary, the root of all evil, the rust of the soul, the step-mother of virtue, and the sepulchre of a living man. It has been well said that the idle man has the least leisure, and it is a well-known fact that the most phenomenal literary achievements by men of our profession have been accomplished by those whose professional duties were the most onerous and exacting. The busiest men have also the most time for social enjoyments, as a rule, and it is often a matter of comment among their fellows that, notwithstanding the time they devote to both business and pleasure, they still keep posted on what is going on around them. They somehow find time to read all the latest books and journals, and in most instances they are equally familiar with the news of the day. To such men literary work is but a recreation. Moments of idleness are intolerable, and labor of a kind different from their bread-winning work becomes a restful pleasure. They have, in short, become adepts in the proper and economical use of time.

It is given to but few to wield the facile pen, but we may all read what the more fortunate have written. Habits of industry can be formed, if not so readily, just as certainly, as habits of idleness. Persistent reading begets a fondness for it, providing the subjects chosen are agreeable.

The constant reading of fiction is worse than idleness, and the physician is to be pitied whose soul is not sufficiently imbued with love for the science to tolerate the perusal of the medical literature of the day. To neglect it is to court oblivion. Every physician owes it to his clientele as well as to himself to take and to regularly read at least two or three lively medical journals. A little fiction on the side will hurt no one.

Another habit also averse to idleness which much be formed is that of memory. To read to forget is worse than not to read at all. A poor memory means a lack of mental concentration in reading; in most instances it denotes laziness rather than mental deficiency; rarely it is due to fatigue. Habitual, careful reading cultivates the memory, fills idle moments and brings a rich reward, for "Reading maketh the full man."—*Clin. Lancet-Clinic.*

The Closed Window.—The absolute importance of a sufficient supply of pure air to all persons under all conditions is a subject upon which we never lose an opportunity of laying stress. We are glad, therefore, to add our support to the emphatic testimony of a correspondent who addressed the *Westminster Gazette* recently in a letter with the above heading. The gist of this gentleman's remarks was that he always slept with his bedroom window wide open, that in the daytime he was equally careful to be liberally supplied with fresh air, and that he used cold water freely. Now, there is not the slightest doubt that this doctrine, though perhaps carried to an extreme, is sound in foundation. "Colds," whatever their exact etiology, are commonly caught from sudden or prolonged exposure to temperature considerably lower than that usual at the time. Such exposure presumably lowers the resistance of the individual, and it does so mainly because his resistance is not habitually educated in the manner described by the writer whom we have quoted. A hardihood of the vaso-motor system, if not of the body generally, is certainly obtained by a healthy person who habitually exposes himself freely to fresh air and the daily test of a cold bath. We have pointed out recently the atmospheric iniquity of most public buildings, but in private life there is no excuse, except among the poorest, for deficient quantities of fresh air. Unless there are special reasons for the contrary, every person should sleep with his bedroom window open, and copious supplies of air, if not of sunlight, too, should be constant visitors in his sitting-room, even though this looks upon a London street. Fresh air and sunlight are the great natural germicides. Medical men must constantly teach the public that if only these two are constantly sought they provide a prevention that will do away with the need for the cure now unhappily so often sought in vain in an open-air treatment. The open air treatment is wanted in everyday life. It can be largely introduced as to save thousands from the necessity of giving up their lives to curing the tuberculosis which they would never have contracted had they indulged earlier in free air. In an article on the "Degenerative Result of Deficient Ventilation" in the *Journal of Bacteriology* the writer pleads for legislation to limit the minimum ventilation allowable in every assembling-place or habitation for human beings and for dairy cows and horses. The vast influence for evil—particularly in the matter of tuberculosis, anemia, and colds, the forerunners of lung disease—that is exercised by deficient ventilation, places the matter on a level of importance

sufficient to demand legislative interference. Legislation, though, is a slow remedy. Public opinion can in the meantime effect a vast improvement. There are always hundreds of eager enthusiasts waiting for a cue. They will seldom get one more worthy, never one less harmful, than the formation of an "open-window league." Such a body, formed for the propagation of sound principles of ventilation and hygienic atmospheric conditions, may confidently count upon the support of the medical profession. There are, however, we must admit, two great difficulties in the way of the always-open window, in London at any rate. The first is the noise, and the second the amount of dirt and soot in the air, which make everything in a room filthy unless the incoming air is filtered in some way.—*The Lancet*.

Travel as a Cure for Disease.—Unconsciously the physician loves to order for his patients that which he likes for himself. It has always seemed to me to be an interesting field for investigation to determine how much the management of his cases by the ordinary physician depends upon his own fondnesses and predilections. We are apt, for example, to order for our ambulatory patients, unless we curb the desire, the foods, the forms of exercise and methods of life which we ourselves best enjoy. This influence in a physician's work is particularly felt when it comes to the question of travel. If the busy practitioner cannot give up his never-ceasing round of calls and work, he is instinctively anxious to give this change to those who fall under his charge. Just as we are apt to give as presents things we would like ourselves to possess, so the hard working physician is apt to give this present to his patients.

When the case is of such a nature that the patient is not confined to bed, and the financial standing is such as to permit of travel, there is a great natural tendency to send such a person away. This matter is treated rather lightly by the profession; seated in his office, the physician instinctively gives the order "to travel," without considering the many grave difficulties and dangers surrounding such an experience.

The first thing to consider in taking up the question of travel, for people who are feeling unwell, is the question of what there is in it of medicinal value. What are the therapeutics of travel? After careful consideration, it must be acknowledged that the effect is largely psychical. We are all familiar, more or less, with the wonderful influence which the mind has over the body, and there is no doubt that the change of scenes, the different details of life, the taking the mind off home worries and strain, the ingestion of different food, are often of the most potent benefit, and produce effects which no amount of medicine could bring about. On the other hand, however, there are many adverse elements in travel which cannot be eliminated, and which must be considered. The life of the patient, while traveling, is to a very great extent beyond his own control; he is dependent upon the ideas and actions of strangers for his comforts and necessities. He is apt to become too greatly exhausted; seeing many different sights, and rubbing up against various sorts of people, stimulates his mental activity, and in consequence he is almost sure to over-exert himself. Then, again, he finds it very hard to control the character of his food, its method of cooking, or even the time of its serving. Again, as a stranger, he is more prone to such diseases as diarrhea

and typhoid fever from change of drinking-water. He is also peculiarly prone to colds and rheumatic conditions from unexpected changes in weather, from the lack of proper articles of clothing, from sleeping in damp, unaired beds, or unsuitable rooms. The schedules on which trains are run often make protracted hours of strain for him; the American sleeping car, with its stuffy holes, called by courtesy berths, filled with over-heated air, and probably surcharged with germs, all tend to reduce his power of resistance.

Physicians are particularly apt to prescribe ocean voyages for patients convalescing from some exhausting, acute disease. Here again, it must be remembered that the strain of ocean travel is peculiarly great. Life on the ocean is circumscribed, so that unless a patient is particularly fond of such life, the daily routine becomes extremely irksome and nerve-wearing, even in the pleasantest of weather, and on the best of steamers. I remember a case illustrating this tendency very markedly. A young man, recovering from typhoid fever, was ordered to take an ocean voyage by his physician. He had been growing very rapidly for the past few years, and had been studying very hard preparing himself for college, therefore he had been in an extremely depressed condition before typhoid fever developed, and the physician felt he should take a long time to recuperate, and consequently ordered a trip to Europe. The lad did well for the first two or three days, but then he began to develop signs of excitement which deepened into acute delirium, and when the steamer reached the port at Liverpool he had to be taken to a private hospital for the insane and his parents cabled for. This brought up the matter of steamer life for sick people with the ship's surgeon, and he told me that he scarcely, if ever, had a voyage on which he did not have at least one such case. He said it seemed to him as if the medical profession looked upon sea life as a panacea for all ills, whereas, in his judgment, a person should be in pretty fair physical condition to take such a voyage. This was wholly independent of the terrors of sea-sickness, or the confinement produced by rough weather. He said that in his experience men who had been drinking heavily were peculiarly apt to take ocean voyages to sober them up; in a large proportion of cases, they developed delirium tremens. Upon investigating these cases, he found that these men, on sobering up from other spree, had never had such attacks, and he felt justified in attributing their serious condition to the strain produced by ocean travel.

Other ship surgeons have confirmed these views, and there is no doubt that ocean travel is especially hard on the average landsman, sick or well.

European railway travel is also a hard strain upon the nerves and energy, for the details of travel have not been worked out carefully at all, the comfort of the passenger has not been considered, and the traveler every day meets with innumerable annoyances. I remember, in my own case, while traveling abroad for health, that many things occurred which were upsetting, exciting, and nerve-racking. Even the first-class coaches are stuffy, uncomfortable, and poorly ventilated; the annoyance of looking after baggage constantly is a source of irritation, and taken all in all a European trip is not to be entered upon lightly or unadvisedly by the average convalescent or ambulatory case.—J. Howe Adams, M.D., in *Med. Age*.

Correspondence

Therapeutics of Iron

Editor MERCK'S ARCHIVES:

Iron is a necessary element to all forms of protoplasm throughout the animal kingdom, but the amount essential to the maintenance of health bears an incongruous relation to the generally accepted dose. The entire quantity in the blood and tissues of an adult in health is about 15 grn., the greater part existing as hemoglobin. It was formerly believed that 1 grn. of food-iron was taken daily, but recent investigations have shown that the ordinary dietary contains only $\frac{1}{12}$ to $\frac{1}{6}$ grn., and that the absorption of one-half of this quantity is sufficient to preserve the iron equilibrium.

Some physiologists deny the absorption of the chemist's iron, and many believe in a very limited percentage. Nothing is known respecting the absorbable form, and only an approximate estimate is given as to the amount. The latest physiologic experiments seem to establish that inorganic iron follows the same course as food-iron, but fail to give any adequate reason for administering the former when the system rejects the latter. Cushney observes that in prescribing the minimum dose of 1 grn. t. i. d. to a chlorotic patient, more iron will pass through the intestinal tract by thirty times than the system can possibly take up, or more than the healthy digestion of a laborer can abstract from his food in a period of six weeks. Such deluging of sensitive tissues by an irritating product must stand in bold opposition to hygienic therapy, and has no parallelism in nature's methods. The benefits accruing from such administrations have been attested by generations of physicians and cannot lightly be thrust aside, but the argument thereof is not altogether convincing when we recall the millions that have recovered from diseases under the grossest maltreatment. The human economy is wonderfully tolerant of abuse. No scientific method of computing has yet determined the relative value of medicine, when self-limitation of disease and nutrient forces of nature play the important rôle.

Clinical facts prove that anemia is almost invariably a secondary condition, the underlying causes of which call for the investigation and treatment. A universal habit of doctoring the effect rather than the disease accounts for many failures. Were simple addition of iron the problem, practice in this particular might be reduced to mathematical amusement.

Dujardin-Beaumetz has demonstrated an abundance of iron in food, and proven that anemia is only the expression of malnutrition. This accords with practical experience, that in promoting assimilation blood-poverty disappears. This principle is most apparent to those accustomed to treat dispensary patients. Remove them from unwholesome surroundings, give them good air, proper food, comfortable beds, and the results are "bright eyes, rosy cheeks, and increased strength" without medicinal agents. But iron cannot be administered under these adverse hygienic conditions with any appreciable improvement.

Dr. Simon Baruch tersely expresses the truth when he says that "So long as anemia remains associated with iron treatment in the minds of physicians, so long will its management remain unsatisfactory." How often has it happened that months have been wasted and hundreds of pills administered to relieve a failing hematosis with no regard to causes? A child, anemic because

he cannot get the breath of life through the nostrils, does not need iron but oxygen—the surgeon, not the doctor. In functional anemia, due to overwork, unsanitary surroundings, insufficient food, or mental perturbations, remove the specific causes and recovery is the rule without ferruginous medication.

Iron is now rejected in all forms of hemorrhage. The hemostatic value is applicable only when brought into immediate contact with the bleeding surface, but even in the accessible antechambers of the nose the resulting albuminated compound formed with clotted blood renders it inert. The perchloride is valueless in internal hemorrhage of the lungs; if sprayed, it induces irritative coughing which aggravates hemoptysis. In the *primæ viæ* it forms an albuminated clot far from the point of rupture. As an injection into the uterus, navus, and aneurisms it has caused fatal embolism.

The tincture of chloride of iron is worse than useless in erysipelas, according to all recent investigators. Most notable is the testimony of Osler, Cushney, the Hotel Dieu (Paris), and the Royal Infirmary (Edinburgh).

Iron is contraindicated in all forms of fever and wherever there is gastro-intestinal irritation. It has signally proven its worthlessness to reduce the albuminuria of chronic nephritis. Like many other remedies it is weakest in emergent conditions and strongest where nothing is needed.

In reference to pernicious anemias, Dr. Billings has written "Improvement may take place in these cases without the aid of tonics. Remedies have received undeserved credit for good, when in all probability the improvement was due to the natural course of the disease."

The internal administration of iron should be limited to chlorosis and to small physiologic doses. This disease and its consequent symptoms of gastric catarrh, amenorrhea, and occasionally edema, seems to respond to ferruginous medication in the larger proportion of cases, but the more malignant form is rarely benefited. It is of questionable value during convalescence, after acute diseases, in the anemic state induced by profuse hemorrhage and the cachexia of malaria, syphilis and chronic diseases. In all these conditions the administration of iron according to preconceived notions *retards* rather than *accelerates* the recuperative forces.

Obtaining the same clinical results by different methods and varying doses has been an interesting observation in favor of physiologic treatment and against therapeutic measures. Years ago anemia was treated by massive doses of iron; later the same degree of success was apparent with diminished doses; recently these have been reduced through the introduction of the proteid compounds and anemia responds to treatment with the same measure of success. It is also relieved by doses approaching the infinitesimal standard, most apparent in taking ferruginous waters, and by the higher triturations of the Similia school. The hygienist removes causes and corrects dyscrasias by natural methods; the hydropathist washes away intestinal ptomaines, and invigorates the cutaneous circulation through the medium of water, both restoring health and color without festooning the entire digestive tract. These are facts born of long observation and have a peculiar significance.

While admitting that iron still has a place in our Pharmacopœia, we have learned to succeed so well without it in later practice, as to deny its frequent necessity and medicinal importance.

Jersey City.

EDWIN W. PYLÉ.

Book Reviews

A TEXT-BOOK OF PHARMACOLOGY. Including Therapeutics, Materia Medica, Pharmacy, Prescription-writing, Toxicology. By Torald Sollmann, M.D. This book is not merely a compilation of what has been written by others on the subject of pharmacology, as are so many of our text-books. On the contrary, it is thoroughly original both in the arrangement of the subject-matter and in the method of its treatment. An attempt has been made by the author to treat pharmacology from a strictly scientific standpoint. The author believes that application of drugs to the cure of disease must be based on the physiologic action of the drugs, and any discussion of pharmacologic action must be supplemented by a recital of the experiments upon which the stated facts are based. The book also contains special chapters on toxicologic analysis, pharmaceutical assaying, laboratory experimentation, etc. The book is not elementary and is not intended for those who are always on the lookout for short-cuts to knowledge. But those who care to devote the time and energy necessary in order to acquire a knowledge of this most important branch of medicine—materia medica and therapeutics—will find the volume a mine of information. Its price is very reasonable. (W. B. Saunders & Co., Philadelphia and London. Royal octavo volume of 880 pages, fully illustrated. Cloth, price \$3.75 net.)

THORNTON'S DOSE-BOOK AND MANUAL OF PRESCRIPTION-WRITING is a useful book for the beginner; it is equally useful for the student of medicine and the student of pharmacy. The chapter on prescription-writing is very complete. In the chapter on incompatibilities there are some incorrect statements; as, for instance, the statement (page 79) that glycerin with potassium chlorate and tincture of ferric chloride forms an explosive. This is an everyday combination for sore throat, and many drug-stores keep this mixture in stock. On page 163 we read with surprise that "persons of advanced age require larger doses of *opiates* and stimulants, and smaller doses of depressants than the average adult." It is generally assumed that great caution is necessary in administering opium to the aged.

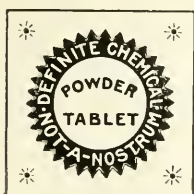
The doses are given in both the apothecaries' and the metric system, and here we wish to call attention to an important defect—not peculiar, however, to this book, but to practically all text-books in which quantities are given in both systems. It is the attempt to be too accurate. Instead of aiding in acquiring a knowledge of the metric system, it really throws discredit on the latter. For instance, $\frac{1}{2}$ to 1 fl. dram is translated 1.8 to 3.7 Cc. The dose of atropine sulphate is given as 0.00032 to 0.00086. The student seeing such uneven and inordinately long figures becomes thoroughly discouraged and despairs of ever being able to acquire a knowledge of such a complicated system. The quantities should always be given in the simplest and nearest equivalents, and it would be much better to give 2 to 4 Cc. as the equivalent of $\frac{1}{2}$ to 1 fl. dr., or 0.0003 to 0.001 as the dose of atropine. The dose of salol is given as 0.32 to 2 Gm., 5 to 31 grn. This is artificial, and 0.3 to 2 Gm., 5 to 30 grn. would be much better. In the kindest spirit we advise the author to simplify his dosage in the next edition; such a change will make his book

still more useful and acceptable. (W. B. Saunders & Co., Philadelphia and London. Second edition; revised and enlarged. 362 pages, illustrated. Bound in flexible leather. Price, \$2 net.)

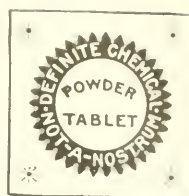
MICROBES AND HEALTH. By Dr. Samuel J. Wilson. In this book the author endeavors to prove that microbes have absolutely nothing to do with the causation of any disease, and that all serums and antitoxins are humbugs and frauds, figments of the diseased brains of crazy bacteriologists and greedy manufacturers. We will say right here that the author is sincere; he really believes everything he says. But sincerity alone is not a sufficient qualification; the sincerity of an opinion alone does not entitle it to respect. All fanatics and witch-burners were sincere. The question is, Is the opinion based on research, on investigation? Is it supported by facts, or is it purely theoretical reasoning, evolved from the author's individual brain? We regret to say, the latter seems to be the case. If a man uses antitoxin in diphtheria and finds it worthless and says so, why, his opinion is worth as much as the opinion of him who declares it the grandest specific in diphtheria. But if one has not used antitoxin in a single case, and simply states it is no good, his opinion is worth absolutely nothing. As to the statement that germs never cause any disease, it seems to us that those who make such statements should have the courage of their convictions. Why should not one of the anti-bacteriologists once forever convince the scientists of the error of their ways by inoculating himself with, let us say, a pure culture of tetanus bacilli and—well, we fear that the consequences would convert him at once into a very strong believer in the reality of the relationship of germs to *some* diseases. No; we are frank to admit that the rôle of the bacillus has been occasionally exaggerated; but nevertheless, bacteriology is a true science, and only those who have no idea of it, who have never handled a microscope, can deny it. To the untrained and uneducated the author's reasoning may appear convincing; not so to the trained and scientific physician. If the bacterial theory of disease is ever to be overthrown, it will be done by the bacteriologists themselves, by people who know whereof they speak. Mere theorizing is worthless in a case like this. The book contains many misstatements and a considerable amount of matter entirely irrelevant to the subject. (Published by the author, in Detroit, Mich.)

KIRKES' HANDBOOK OF PHYSIOLOGY. By W. D. Halliburton, M.D., F.R.S. Kirkes' Physiology is too well known to need extended reviewing. While bearing the name of Kirkes, the author is really Halliburton, and this the seventeenth edition has been brought up to date by him in every department. In its present form we consider it one of the very best text-books for students. (P. Blakiston's Son & Co., Philadelphia. Seventeenth edition, with 681 illustrations. Price, in cloth, \$3 net.)

LANDIS' COMPEND OF OBSTETRICS forms one of the series of Blakiston's quiz-compend. It is in the regulation style, and not much can be said pro or con, except what would apply to quiz-compend in general. And on this subject we have already expressed ourselves before. The fact that seven editions have appeared is sufficient testimony to the demand that exists for this class of books. (P. Blakiston's Son & Co., Philadelphia. Cloth, 80 cents.)



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INCUBUS.—[Written for MERCK'S ARCHIVES]

He was a sturdy farmer-man
Who'd labored hard from morn till night,
And when the evening meal was spread
Displayed a wondrous appetite.
The table groaned with food galore—
With things baked, pickled, stewed and fried
Wherewith he crammed and jammed himself
Then straight to bed and slumber hied.

On him, recumbent, soon there sat
A dozen Anthropophagii
A'chucking chunks of griddled men
A'down their œsophagii.
But in a trice their feast was done,
Whereon they vanished speedily
When, instantly, fierce tigers came
And clawed and gnawed him greedily.

When but one other bite would kill
The brutes retreated slinkingly;
But through the dark their great eyes blazed
And stared upon him blinkingly.
Sharp talons seized him: cruel beaks
His inmost recesses explored,
While, in their grasp, to beetling cliff
With him rapacious vultures soared.

And dropped him there. And there he clung
To jutting crag with palsying hand,
And saw ten thousand feet below
The great waves beat the quaking strand:
Saw prehistoric saurians fierce—
Full fifty fathoms long they seemed—
Await his plunge while through the spray,
From gaping jaws their huge tusks gleamed.

Horror on horrors crowded fast
And all the ambient ether thrilled
With sighs, horripilating groans
And moans from dire distress distilled.
The moon through clouds diaphonous
Upon the sufferer looked askance;
Through sighing pines the night wind sobbed
As if his misery to enhance.

At last he woke. From every pore
The drops of agony had oozed
Because, forsooth, that farmer-man
His gastric organ had abused.
The vultures, anthropophagii,
Cliff, tigers, waves and saurians old
Were but the figments of his brain
And passed like simple tales half told.

—J. B. Walter, M.D., Solisbury, Pa.

A JOKE ON THE LEARNED DOCTOR.—The Berlin correspondent of the *British Medical Journal* relates a really very amusing event which occurred to a grave and serious German professor.

In the *Zeitschrift für klinische Medizin*, edited by Professors von Leyden and Klemperer, Dr. Speck publishes an article reviewing and criticising modern therapeutic fads, such as the "light treatment," etc. In the course of his diatribes against what he thinks present-day futile methods of treatment, he makes the new "darkness treatment" the object of his most bitter invective and most biting sarcasm.

Dr. Speck read in a paper named the *Davoser Blätter*, said to be published by Drs. Rile and Herz, a long and minute account of this latest mode of successfully treating tuberculosis, discovered by them. So aroused was Dr. Speck by the publication, according to his idea of another and most impudent attempt to gull a too confiding public, that he quotes in the pages of the prominent German medical journal details of the cure, advertised by Drs. Rile and Herz, which were as follows: A sanitarium for consumptives in the catacombs of Syracuse, 150 meters below the surface of the earth, where the patients are kept for months without the light of day, with the astonishing result of 83 per cent. cures and 17 per cent. decided improvements; he further quotes, but with withering indignation, "the scientific explanation of this treatment, which is offered, namely, the increased blood pressure, and the fact that the mole is notoriously free from tuberculosis."

Unfortunately, Dr. Speck was decidedly lacking in a sense of humor, and failed to notice that the signatures appended to this singularly lucid and convincing article were "Dr. A. P. Ril and Dr. S. C. Herz (Scherz, German for joke), and in addition that it was dated from Fanfaronnata.

It goes without saying that seldom is an April joke brought off so successfully as the ingenious concoction of nonsense published in the *Davoser Blätter*.—*Med. Rec.*

RECOLLECTIONS OF THE FIRST OPERATION PERFORMED UNDER ANESTHESIA.—In a letter to Prof. J. P. Webster, of Chicago, Dr. G. M. Angell, of Atlanta, tells of the first use of ether as an anesthetic. He says:

"My recollection of the event you mention extends to the winter of 1846 or 7 while attending my last course of lectures in the medical department of Harvard University.

"Dr. John Warren was president of the medical department at Harvard and chief surgeon of the Massachusetts General Hospital. Some time about the middle of the lecture term a rumor was circulated amongst the students of the medical quarter in the city that an agent had been discovered which would do away with the pain of a surgical operation, however severe. At length it was announced that at the next operating day at the hospital Dr. John Warren would perform an amputation of a leg and would make use of this agent as an experiment.

"This statement reached the newspapers of the city and excited much discussion among surgeons and physicians of Boston and the surrounding country. On the morning of the day appointed for the operation, I went as usual to the hospital, but much earlier, as I anticipated from the great reputation of Dr. Warren and the importance attached to the experiment that there would be a large attendance at the clinic.

"When I arrived a very large crowd had already assembled in front of the hospital, reaching out to the sidewalk and street, but the door was kept closed until the usual hour of opening arrived. I passed in by a private door with a student; we went directly to the operating room and chose our seats. This room was a vast amphitheatre with terraced seats rising in a circle on three sides of the room almost to the ceiling. In front of these seats and separated from them by a low railing was the operating stage, a door leading out from it into the wards of the hospital.

"My companion and myself took our seats close to the railing and directly opposite to where the

(Continued on p. xiv)

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(Continued from p. xiii)

operating table stood, and impatiently awaited events. Meantime the crowd outside increased to such an extent that when the hour arrived and the doors were opened the great hall was filled to overflowing with the rushing host which filled the seats and aisles to their utmost capacity.

"Dr. John Mason Warren, son of Dr. Warren, Dr. Bigelow, son of the professor of theory and practice in Harvard, and Dr. Parkham had just entered upon their professional career, and all of them in subsequent years became celebrated as authors and practitioners.

"Presently Dr. Warren, Sr., came in, and soon after a young man having in his hands a glass globe, perhaps eight inches in diameter, with a mouth-piece attached, and a hole in the top, stopped with a cork, containing a clear liquid. We did not know what it was.

"I was not personally acquainted with this gentleman, but it was whispered around among the seats that this was Morton, the reputed discoverer of the agent which was to be experimented with.

"Very soon the ward attendants brought in the patient who was to be operated upon, a young woman about twenty-four or five years of age, and laid her upon the table. The three young attendants arranged themselves in line on the opposite side of Dr. Warren, Sr. Morton leaned against the railing a few feet from where we sat, holding the globe in his hands.

"Dr. Warren commenced to speak and a profound silence reigned throughout the room. He referred to the disease which rendered the operation necessary (necrosis of the knee-joint), and commented upon its nature quite fully, spoke of the remedies which had been adopted; that they had all proven abortive, and that the limb must be sacrificed.

"In all this there was no deviation from the usual custom before an operation; he was the same quiet, dignified old gentleman as when talking to a few medical students sitting on the benches. After finishing these remarks he turned a little more, facing the audience, and said, that he had been forty years a surgeon in the city of Boston, and that from time to time during that period persons had come to him and said that they had an agent which would do away with the pain of a surgical operation. On account of the great blessing it would be to the human race if such an agent could be discovered, he had heard what they had to say, and if he thought there was no danger to be apprehended from the remedy, and if they were persons whose character and standing seemed to entitle their opinions to respect, he had made the experiment desired. He had tried galvanism, magnetism and hypnotism. There was a curl of the lip as he announced these agents, which we very well understood to mean that he had no confidence in any of them. 'But,' continued he, 'in every instance when the knife was applied to live tissue there was pain.'

"And now we have a gentleman here (turning to Mr. Morton) who tells us that he has a liquid preparation, by the inhaling of which the pain will be entirely done away with in the operation. He has furnished abundant evidence of his having administered it frequently in minor surgical operations, and that no pain was felt and no injury accrued to the patient.' Then, addressing Mr. Morton, he requested him to come forward with his agent.

"Morton came up to the table, put the mouth-piece to the mouth of the patient, giving her a few whispered directions, and took the cork from the hole in the top of the globe. Imagine, if you

can, the death-like stillness that pervaded that great audience for the next few minutes. The patient's eyes were closed as one in sleep, the chest rose and fell as in deep natural sleep.

"I was not more than six feet away from the patient and could see every motion. The silence was broken by Morton taking the mouthpiece from the patient's mouth. He said in a loud voice to Warren: 'She is ready for the operation, sir.' Dr. Warren replied, very gently, at the same time searching for a pin on the lapel of his coat: 'You think she'll not feel any pain now, do you?' Mr. Morton said: 'No, sir.' Warren had found a pin, took up the arm of the patient and forced the pin into it, at the same time looking at her countenance. He repeated this two or three times; she did not change the muscles of her face. He then turned quickly, picking up a catling, and made a rapid incision through the integuments and superficial layers of the muscles. The operation was circular and at the lower third of the thigh.

"He stopped an instant and looked earnestly into her face; she showed no signs of pain, not a muscle moved. He finished the division of the muscles, sawed off the bone, put the leg under the table in front of him. He stepped aside, crossed his arms behind him, and said: 'John, tie those arteries,' sponged off the stump, put in, as customary in those days, three stitches, and commenced to put on the straps. All this time the old gentleman was traveling back and forth across the stage, and as he passed by he would look down into the patient's face. Just then she turned her head a little to one side and gave a groan, like one coming out of her sleep.

"The old gentleman took hold of her sleeve and called her name; she looked up at him in a dazed manner and said: 'Sir,' 'I guess you've been asleep, Jane,' he said. 'I think I have, sir,' she replied. 'Well, we brought you here for the purpose of performing the operation on your limb.' 'Yes, sir,' she replied. 'Well, are you ready for the operation?' 'Yes, sir,' she said. 'I am ready.' He reached out, picked up the limb, showed it to her, and said: 'It is all done.'

"I have no ability to describe, nor shall I attempt, the scene which followed. Men seemed beside themselves with joy; they clapped their hands, stamped and yelled until the building seemed to reel; pandemonium seemed let loose.

"During this mêlée the patient was carried into the ward and put into bed. Warren was still walking to and fro on the stage apparently oblivious to everything. The audience, thinking that he would make a speech, gradually quieted down. When they were still the old gentleman turned around and facing the audience said: 'We have seen what we have seen. At some future time I may have something to say about it, but to-day nothing.'

"The audience dispersed, the physicians hurried to their offices, those out of town to their homes, and the students to their books, and the greatest discovery of the nineteenth century was an accomplished fact."—*Internat. Jour. of Surg.*

MONOTONY OF HOTEL AND RESTAURANT COOKING.

—There is no country in which the menus of hotels, dining cars, and restaurants contain so many items, and yet there is none in which there is such a monotonous and tiresome sameness. From Maine to California, from Florida to Wisconsin, the same choice of foods is offered, all cooked and served in the same way. But a few years ago one found some variety the "spice of life" and of cookery, in the old-fashioned dishes of New England, the baked beans and brown

bread, the hulled corn, the baked Indian pudding, etc., but now these things are not to be had anywhere, or if the names greet one, the things themselves are disappointing travesties of the olden toothsome delights. It is the same with the indigenous dishes of all other parts of the country. The refrigerator car makes possible the dull uniformity of the menu, and fashion stupidly demands that the palatable things of one part of the country shall be perhaps ignored where they are fresh, and transported 1,000 or 2,000 miles where they are out of season and stale. It has been said that whether one smoke good or bad tobacco, or indeed whether one's cigar be lit or not, is a matter of indifference to the smoker sitting in the darkness. To the blind man it must be "all one" wherever he dines. Is it useless to appeal to chefs, cooks and caterers for the native dishes of the country, cooked as the natives cook them? Individualism is as good for health in the culinary as in the sociologic art.—*Amer. Med.*

THE SALT-EATER.—

You know him by his buoyant air,
You know him by his swinging stride,
His features show no sign of care,
His cheeks are red, his chest is wide.
At intervals the way he blocks:
Despite the surging throng he'll halt
To take a pinch from out a box—
A box of salt.

He loves that casket, well advised
With confidence that science brings,
No diamond snuff box greater prized
E'er gleamed in hands of richest kings!
'Bacco he scorns, and gum's a pest.
Better than marrow, milk or malt,
His grand elixir in his vest—
He trusts in salt.

At times a gasping, wry grimace
Bedims the rapture of his smile,
But, 'spite the twitching of his face,
He gloats with inward joy the while.
Sweet, sickly flattery must fail;
Acerbity's a candid fault.
And truth, though sour, will still prevail—
Like honest salt.

With modern hygienic plan,
With stalwart heart by night and day,
This happy, healthy, pickled man
Goes on his grand rejoicing way.
A briny odor round him floats
As from fishmongers' opened vault;
The air his wholesome lot denotes—
Preserved with salt.

—*Cin. Lancet-Clinic.*

MR. FERGUSON'S INITIATION.—It was still early in the evening when Mr. George Ferguson, having been notified that his application for membership in the Beneficent Order of Healthy Men had been voted upon favorably, accompanied the messenger to the lodgeroom.

His entrance into the antechamber was somewhat startling. The personage in charge of the outer door immediately thrust a thermometer in his mouth, held it there a few moments, and recorded his temperature in a notebook.

A solemn man in black stripped him to the waist, applied a stethoscope to the region of his heart, made a memorandum in another notebook, and passed him on to another solemn man in black, who ascertained and recorded his pulse and respiration.

Thus far not a word had been spoken.

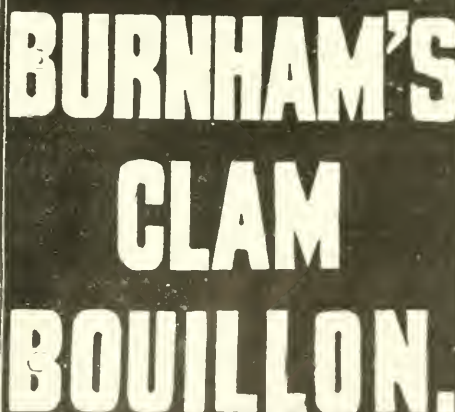
(Continued on p. XVI)

GASTRIC IRRITABILITY

In inflammatory, ulcerated and disturbed conditions in general of the gastric membrane, Physicians will find

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an acceptable and soothing nutrient. It gives the greatest amount of food energy with the least labor for the digestive organs. It is soothing to an irritable stomach when other foods cannot be tolerated. Owing to the process of manufacture the product is partially predigested and thoroughly sterilized. The rapidity with which it is absorbed gives the stomach walls a longer period of rest than can be secured through the use of ordinary nutrient agents.



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BURNHAM'S CLAM BOUILLON

consists in the fact that it is bottled in glass, being sold in pints and half-pints. This assures not only cleanliness and convenience in the serving, but perfect purity and freshness while using in the sick room. All the leading apothecaries and grocers sell it.

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MANUFACTURERS AND PACKERS

53 to 61 Gansevoort St., New York.

(Continued from p. xv)

He was blindfolded and conducted into the lodge-room proper.

"Who comes here?" demanded a voice.

"A stranger," replied another voice, "who desires, if found worthy, to be initiated into our salutiferous and prophylactic fraternity."

"Has he been examined with special reference to the requirements upon which we insist as conditions precedent to membership in our beneficent order?"

"He has."

"Lead him to the chair of the Retaining Pointer for further examination."

To the accompaniment of a dirge, played on an accordion, he was led half way around the room and halted with a jerk.

"Open your mouth!" commanded a stern voice.

The candidate complied.

"Ha!" continued the stern voice. "Two amalgam fillings! They must come out! Janizaries, place him in the chair!"

He was seized, lifted into what seemed to be a dentist's chair, his mouth was held open, and an operator, with the instrument of torture known as a dental engine, bored out the offending fillings,

sepulchral voice assuring him meanwhile that his teeth must be made to conform rigidly to the gold standard henceforth.

"Is the candidate ready for the next step?" demanded the presiding officer.

"He is, Worshipful Robusto."

"Tis well. Present him to the Granulatis Conjunctivitis."

He was marched around the room again, to the same solemn music on the same depressing instrument, and brought up with a jerk before the chair of another high officer.

"Remove his hoodwink," commanded the Granulatis Conjunctivitis.

It was done.

"Stranger, look at this printed card. Can you read the letters thereon?"

"No," replied the candidate, "I cannot."

"It is as I suspected. Stranger, later on in your journey this evening you will be fitted with a pair of glasses, which you must wear hereafter. Conductor, replace the hoodwink and lead him to the Grand Hygiealorum."

The conductor obeyed.

"Thrust out your tongue," commanded that high dignitary.

The candidate complied.

"Ha!" exclaimed the Grand Hygiealorum. "Coated! The result of improper food! Stranger, in the solemn obligation, which will shortly follow, you will be required to take upon yourself a vow never again to eat unwholesome provender. Conductor, escort the candidate to the chair of the Osteo Arthritis."

Which was done.

"Mortal," said the Osteo Arthritis, "are you subject to rheumatism?"

"Occasionally," answered the candidate, "but—"

"Tis sufficient. Conductor, lead him into the presence of the Worshipful Robusto."

Again was heard the wild, weird music of the accordion.

"Stranger, you are now standing in the presence of the chief officer of this lodge. Raise your right hand. Worshipful Robusto, the candidate is in a proper position for obligation."

"My friend," said the chief officer, slowly and solemnly, "you have come now to the crisis of your initiation into the mysteries of our order. I am assured by the officers who have examined you that your condition is not a normal nor a

healthy one. You have enlargement of the heart—"

"You can never make my wife believe that," involuntarily muttered the candidate.

"Silence!" thundered the Worshipful Robusto. "You have hypertrophy of the heart, your lungs are unsound, your whole digestive system is deranged by dietetic excesses, and you couldn't get graveyard insurance for six months at a 75 per cent. premium. Repeat after me: I, George Ferguson—"

"I, George Ferguson—"

"Do solemnly promise—"

"Do solemnly promise—"

"That I will never indulge in any violent exercise—"

"That I will never indulge in any violent exercise—"

"That I will never smoke a cigar again—"

"What's that?"

"Say it!" hissed the conductor in his ear, as something cold and metallic was thrust against his temple.

"That I will never smoke a cigar again," he said, hastily.

"That I will never ride a bicycle—"

"No, by gravy, I won't promise—"

"Say it!" hissed the conductor again, with the metallic accompaniment; and he yielded, as before.

"That I will never ride a bicycle—"

"That I will avoid all kinds of meat—"

"That I will avoid all kinds of meat—"

"That I will drink no coffee or tea as long as I live—"

"Say it!"

"That I will drink no coffee or tea as long as I live—"

"That I will bathe in cold water every day—"

"That I will bathe in cold water every day—"

"That I will wear coarse underclothing—"

"That I will wear coarse underclothing—"

"That I will indulge in no candies—"

"That I will indulge in no candies—"

"Or oysters—"

"Or oysters—"

"Or ice cream—"

"Or ice cream—"

"That I will eat only fruits—"

"That I will eat only fruits—"

"And oatmeal, and cracked wheat—"

"And oatmeal, and cracked wheat—"

"And drink cereal coffee—"

"Never!" shrieked George Ferguson.

"Never!" he shrieked again.

Rough hands seized him.

He struggled violently.

And awoke.

He was lying on a lounge in the Ferguson dwelling.

It had been all a dream.

And life was still worth living.—*Chicago Tribune*.

DEACON BLIMBEN'S WISDOM.—"If you want your child brung up in the way he should go, you want to travel that way yourself, now an' then."

"The kitten that gets drowned ain't so bad off, after all, fer she won't live to have her tail pinched in the woodshed door."

"An' I want to tell you this. It ain't always the man what builds a sky-scraper buildin' that's goin' to have a mansion in the skies, an' you mind what I tell you!"

"There ain't nothin' truer than that the race ain't always to the swift; but, all the same, if I

(Continued on p. xviii)

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AN INTESTINAL TONIC

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Dose—Pil. Cascara Cathartic, 1 to 2 pills for an adult.

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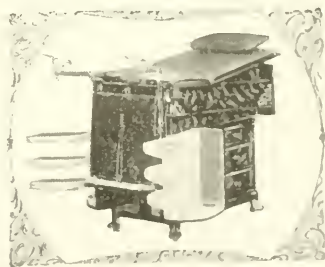
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(Continued from p. xvi)

was a bettin' man, I'd put my money on the fastest hoss."

"There ain't no rose without its thorn. Jest look at new cider. If there's a luxury on 'arth sweeter an' fuller o' satisfaction than a tin dipper o' new cider I'd like to know it; but the achin' an' doublin' up it kin interduce into your system is a caution to wildecats!"

"It's awful to read in the papers about them unpardonable fellers that eats pie with their knife an' tucks their napkins under their chin, but sence I come to think on it, them ain't never the fellers that gits pulled up to be examined in supplement'ry proceedin's, so I've noticed."

"Goodness ain't always rewarded jest accordin' to the way the books has it sot down. Now I never sold my mother's three-dollar brass kittle fer two shillin' when I was a boy, to git money to go to the circus, an' I never played hooky to see a ball game, an' I never robb'd birds' nests, nor tied tin pans to dogs' tails, an' yit, by Josh, I hain't never got to be President yet!"

After a man has learned enough to instruct others he knows too much to try to do it.—*Dict. and Hyg. Gaz.*

THE TICK OF THE CLOCK, A REVERIE OF A LIFE.
—"Tick, tick, tick, tick, and I see the grace of love and youth, of silence and of dawn, making a picture divine. The father mingles his tears with those of the happy mother, but they are tears of joy, for a soul is coming into life. The nurse gayly coos the helpless thing. The infant cries lustily, and looks with startled eyes at those about him, reaches out his feeble hands and cries again. He is placed on the white, blue-veined wells of life, and taught by a mother's caress and voice to dine and sleep. He now craves only warmth and the tender touch of a woman's hand. Above the low love talk of the mother and the rhythmic ticking of the clock, I hear the doctor cheerily say, 'He's all right now.'

"Tick, tick, tick, tick, through the alternating days and nights and months and years, and I see him with top or bat and ball at play in field or wood, or plashing in the brook, having more life than even joy can use with prudence, hunting for no excuse why he should be, or why the world should be, but deeming himself a reason why world systems should be builded.

"Tick, tick, tick, tick, through the ebb and flow of years, and he is grown to man's estate. The top, nor bat and ball, nor brook have little entertainment for him now. He holds a throbbing heart against his own, and seals with a holy kiss, love's compact, thus solving the riddle of the pessimist. Yet with each tick of the clock Death takes one step nearer to him and to the one of all the world he has wooed and won, but he heeds it not. Conscious of his power, he longs to brave the buffetings of life, and place upon his breast the badge of fame. Courted by flattery and brazen proffers of friendship; encouraged by factitious ties of wealth and place; of reputation and love of wife and child, he strides dauntless through the world with a buoyancy and independence that overrides all doubts and dangers, as sea waves break o'er sunken rocks.

"Tick, tick, tick, tick, through sun and shade, and anxious days and sleepless nights, seeing himself stripped of his hoarded gold and the luxuries of life, discovering at last the dishonesty of those he once called friends; learning that the world looks upon failure with indifference or abhorrence, and tolerates misfortune only to turn it to its own account for a selfish purpose.

"He finds himself bound for weary days and nights upon a bed of pain, babbling secrets that he has cherished long, believing that the whole world begins at his pillow and ends at the foot of his bed, but tick, tick, and his bleared eyes look out upon a wider sphere. He sees his wife bending over him and feels her loving kiss pressing his weary eyelids down, while her soft hands cool the fever of weeks and charm the pain away. Once more hope and health are his. Resolutions again fill his grateful soul, and energy and courage, stimulated by his dependent loved ones, take him back into the war of life.

"Tick, tick, tick, tick, and the shuttle of Time weaves into the fabric of years the white threads of age. I see another divine picture, but it is the grace of love and age, of silence and of night. There are tears now as then, but they are tears of sorrow, for a soul is going out of life. The nurse gravely moistens the lips of the helpless thing. The old man looks with startled eyes at those about him, and again reaches out his feeble hands. He shivers, and now, as then, craves only warmth and the tender touch of a woman's hand. Above the low sobs and the loving words of her whom he has worshiped and adored, and the relentless ticking of the clock, I hear the doctor sadly say, 'He's all right now.'"—George F. Butler in *Doctor's Magazine*.

THE VILLAGE DRUGGIST.—

Within his corner store-room bright

The village druggist stands,

With threadbare coat, reseated pants,

And thin and bony hands;

And the bottles on the shelves arrayed

Are gilt with golden bands.

With hungry eyes and famished look

He gazeth towards the door,

Longing for a liberal customer

Who will increase the store

Of nickels in his money-drawer,

At least one nickel more.

His hair is thin and gray and short,

His face is pinched and wan;

Thought sits enthroned upon his brow;

He sells whate'er he can,

And stares the whole world in the face,

For he's a hard-up man.

Week in, week out, from morn till night,

You can see him standing there;

You can hear him sigh his heavy sighs,

The measures of despair;

Lack-lustre eye and shrunken form

All tell of want and care.

The children coming home from school

Troop in at the open door;

They love to beg for almanacs,

And picture-cards galore;

They make life for that pill-pounder

One long, continual bore.

On Sunday he ne'er goes to church,

His store he must attend;

He never hears the sermon, or

Thinks of his latter end.

From store to meals, from meals to store.

His footsteps always tend.

Toiling, sorrowing, suffering,

Onward through life he goes;

Each morning sees the same old grind,

Each eve increasing woes;

Till finally he tumbles off his perch,

And finds at last repose.

—F. N. Danforth, in *Bulletin of Therapeutics*.

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Vol. IV

FEBRUARY, 1902

No. 2

A Real and Serious Evil

THE practice of medicine, particularly that branch of it which is concerned with the administration of drugs, is beset with numerous difficulties. It is an art and science that deals with living, sentient, reasoning beings, and every living, sentient and reasoning being is a law unto itself. When we examine the factors with which we are confronted and which we must take into consideration every time, if we wish our medicines to do good and not to remain resultless—or, still worse, bring actual harm—we see that we have a serious task indeed. After laboriously eliciting all the possible subjective and objective symptoms we arrive at a diagnosis; having arrived at a diagnosis, we try to decide upon the proper remedies, and in doing this, especially in determining the proper dosage, we must take into consideration the age, sex, weight, hereditary taint, parental and personal antecedents, personal habits, reserve of vitality, state of stomach, absorptive power of alimentary canal and accessory glands, and special susceptibility or idiosyncrasy of patients. Also the way in which we desire to administer the remedy: per os, rectum, hypodermically, endermically, intravenously, etc.

But, besides these, there is another factor which is of the greatest importance; a factor which should not exist at all, but which unfortunately does exist and frequently turns to naught all our diagnostic acumen and knowledge, upsets all our calculations, disappoints all our hopes, and

puts us at our wits' end and our patient's life in jeopardy. We refer to the uncertainty of getting just what we prescribe. This is a real and serious evil. While we do not admit that the evil is so widespread as some believe, while we are absolutely certain—speaking from *knowledge* and not from hearsay—that a large proportion of druggists are thoroughly honest and adhere scrupulously to both the letter and the spirit of the physician's prescription, still we know that in a goodly number of drug-stores the evil does exist; and that substitution, either wilful or resulting from ignorance, carelessness or false economy, is practiced right along. The far-reaching consequences of this baneful practice are beginning to make themselves felt very unmistakably.

Substitution is of various kinds and of various degrees. It appears almost incredible that a man could reach such a stage of moral callousness as deliberately to dispense a drug with entirely different medical properties from the one prescribed. And, as a matter of fact, deliberate substitution of this variety is quite exceptional. But the overpowering desire for cheapness very frequently makes the druggist an unwilling perpetrator of the crime. It is a well-known fact that many druggists buy a number of chemicals that have to be imported from Europe, not through the regular, legitimate channels, but from obscure, irresponsible agents, who claim to import the goods without having to pay duty, etc., thus being able

to sell them cheaper. Were the articles always genuine, no harm would result to patient and doctor, and the evil would be merely one of encouraging and abetting violation of the law of the land. But one can never be sure of getting the genuine drug when it is bought through irregular channels. The whole business being secret and hidden from the light of day, what guarantee is there that the drugs are not largely adulterated, or that even an altogether different drug is substituted? The Farbenfabriken of Elberfeld Company, for instance, recently succeeded in exposing a most vicious kind of substitution. Not only were their labels and boxes counterfeited, but acetanilid was largely used instead of sulfonal, trional, and phenacetin. And just think of the effect that 20 grains of acetanilid would produce on a weak patient suffering with insomnia, and in need, say, of some sulfonal! And so it is with many other drugs obtained through secret and devious channels. The chemistry of the various organic compounds is not as simple as that of the inorganic substances, and while the qualitative determination of the various synthetics is not very difficult, their quantitative estimation is quite a different matter and entirely beyond the skill or knowledge of the large majority of druggists. The only way, therefore, for a dispenser to be sure that he is doing his duty to himself and to his doctor, and is not jeopardizing the patient's life, is to obtain his supplies from recognized high-class jobbing houses. And if the druggist will not see it in that light, the doctor should patronize only such druggists as have a finer appreciation of duty.

There is another kind of substitution which, while perhaps not so vicious at first glance, is nevertheless highly reprehensible because it is often just as bad in its results as the downright omission of an ingredient, or the substitution of an entirely different one. We refer to "brand" substitution, or to the replacement of an article of a certain manufacturer by that of another. A physician, for instance, prescribes digitalin or aconitine of a certain brand. He has used them before, knows their dosage and effects,

and what he may reasonably expect from them. The druggist dispenses a digitalin or aconitine of some other manufacturer, which may be practically inert, or, at any rate, many times weaker; or either drug may exert unexpected by-effects (on account of impurities). What is the result? The patient's condition is not improved or is made worse, the doctor is puzzled, pained, and disappointed, and—further uncertainty is thrown into the domain of therapeutics, further obstacles are put in the way of its orderly and progressive development. The druggist cannot justify himself by saying he dispensed the drug the doctor prescribed. He did not; because such substances as digitalin, aconitine, methylene blue, ethyl bromide, etc., are not absolute entities. That is, we mean to say they are not absolutely identical, no matter by whom or by what process manufactured. Some of the preparations in the market are very active and uniform in their effect; others are almost inert, or else possess very undesirable toxic by-effects. This is even true of galenical preparations. We know of some fluid extracts of cannabis indica which are so weak that a teaspoonful may be given without appreciable effect; while of a fluid extract of a certain manufacturer we have found 8 minims to be the maximum dose, which could not be exceeded with impunity. It is thus seen that even "brand" substitution is a serious matter.

It is, therefore, the doctor's duty to himself and to his patient to be very specific in his prescriptions and to see to it that he gets just what he wants. He is the sole judge in the matter. He alone knows the indications and contraindications; he alone knows what effect he desires to obtain; on him alone rests the responsibility for the successful issue of the case. As to the druggist, aside from moral considerations, his own interests, his self-preservation should teach him to walk in the path of righteousness. To persist in the practices to which we have alluded above means to drive the physicians either into therapeutic nihilism or else into self-dispensing. Either result means in its turn the extinction of the druggist as a professional man.

[Translated and condensed for MERCK'S ARCHIVES]

THE INTERNAL TREATMENT OF SKIN DISEASES

By Dr. S. Jessner¹

It is natural to look upon diseases of the skin as local disorders and to attempt local treatment accordingly; but while granting the plausibility of such a view, we must not overlook the frequent association of external skin manifestations with internal diseases. Thus, in diabetes, nervous diseases, etc., we meet with various dermatological evidences of the underlying internal disorder. Bearing this relationship in mind, we must always search for any possible internal cause of skin disease and institute a causal treatment, if necessary. This we might call the *indirect internal treatment*, to distinguish it from the *direct internal therapy* of skin diseases, the latter applied to cases which do not depend on any constitutional disease.

1. *Indirect Internal Treatment.* — This is directed against the primary pathological condition and thus will be seen to comprise the whole domain of internal therapeutics. Of course, a judicious combination of local and general treatment is not to be neglected. If we have a chlorotic patient suffering with acne vulgaris, we shall treat the anemia while not neglecting local measures to combat the acne. The main object is to help the patient, not to ascertain whether the pill or the ointment cured the acne.

A very popular mode of dealing with skin diseases is the administration of purgatives. The laity seems to place great confidence in this method, as well as in all derivative procedures. Leeches, cups, sinapisms, plasters, are used against internal diseases, and conversely purgation must be good in skin disorders. This popular idea is not without its grain of truth, but the indiscriminate recourse to castor oil or Epsom salt is to be combated. Their occasional ingestion will do no harm, but any prolonged course of purgative medication should not be thoughtlessly undertaken. On the other hand, the importance of regular defecation should not be underrated, and women especially ought to pay more attention to this function. A properly selected diet, composed largely of fruits and vegetables, the use of buttermilk, if necessary, and the cultivation of regular habits, are the hygienic measures inimical to constipation. Occasionally, a mild cathartic, such as cascara sagrada, rhubarb or compound licorice powder, will be appropriate.

These stray remarks must suffice, as we are chiefly concerned with what follows.

2. *The Direct Internal Therapy of Skin Diseases.*—Here we may at the outset conveniently distinguish the dietetic and medicinal measures.

The influence of a certain dietetic regimen on skin diseases constitutes another feature of popular view on the subject. Certain facts corroborate this idea: we often see urticaria and dermatitis following the ingestion of lobsters, strawberries, etc., we know the influence of diet on skin eruptions in diabetes, etc., but otherwise we have no evidence in support of popular beliefs which blame a meat diet for an eczema or the like.

We cannot say that fats or albuminous substances are responsible for certain dermatoses, although the general state of nutrition certainly may have an etiological significance. Any excess in eating or drinking should be carefully avoided. Children must not be too liberally fed. On the other hand, defective or insufficient nutrition is to be guarded against as lessening the resisting power of the system and indirectly inviting disease. Vegetables and fruits should be more plentifully partaken of. They counteract constipation and are also antagonistic to the uric-acid diathesis, which plays some part in the etiology of skin diseases.

Generally speaking, all food should be fresh, and strongly flavored meats, cheeses, and highly spiced articles of diet avoided by people suffering from skin diseases or predisposed to them. Our stimulants, alcohol, coffee, and tea, exert an unfavorable effect on the skin. Alcohol is the direct cause of acne rosacea. Alcohol favors the development of seborrhea, alopecia, eczema, and pruritus, and should be avoided. Next to alcohol, coffee and tea are injurious to the skin in various ways. Indirectly they affect the skin by damaging the kidneys, nerves, and heart. Directly, they intensify the suffering in all skin diseases associated with itching. Some cases of pruritus ani et genitalium have been positively cured by cutting off these stimulants. Of the two, tea seems to be milder and less harmful.

Lastly, an important point is the temperature of food and drinks. Taken too hot, they intensify all skin diseases associated with peripheral congestion or hyperaesthesia. So much on dietetics in dermatology.

Passing over to the medicinal treatment of skin diseases, we must first of all mention arsenic, the best known and most frequently used dermatological remedy. The efficiency of this drug is still beyond

¹ "Dermatologische Vorträge für Praktiker," No. 5.

doubt even though its *modus operandi* remains unknown. So great is the value of arsenic in this connection that many have acquired the habit of prescribing it indiscriminately in every skin disease. This is overdoing matters. Arsenic is no dermatological panacea. The diseases in which we may rely on it are lichen ruber planus, lichen ruber acuminatus, pityriasis rubra, and especially psoriasis vulgaris. In the latter disease arsenic is seldom known to fail, especially if combined with a judicious local treatment. A very frequent indication for arsenic is given by eczema. Not all forms of this common disorder are suitable for arsenic treatment. Acute eczemata are to be excluded. They demand rapid and prompt interference, while arsenic acts very slowly. In the chronic forms the remedy is certainly productive of much good. The same may be said of eczema in childhood, while all forms of eczema due to micro-organisms or disturbances of circulation will not be benefited by arsenic. Opinions differ as to its efficiency in acne vulgaris, acne rosacea, urticaria, and pruritus simplex. The author's attitude is skeptical, although he does not deny the good effects of the drug on the patient's general condition. Multiple warts may often be removed by taking arsenic, and in *granuloma fungoides* it is undoubtedly of value.

Arsenic is best administered in pill form, in gradually ascending doses, taken always after meals. Fowler's solution deserves less indorsement. Very intolerant patients may take arsenic in the mineral waters of Levico, Roncigno, etc., well diluted, after meals.

If very energetic treatment is desirable, the arsenic should be given subcutaneously. For this purpose either Fowler's solution, diluted with an equal quantity of water, is employed, or a 1-per-cent. solution of sodium arsenate. Recently sodium cacodylate has been highly lauded for hypodermic use. Arsenic acts very slowly and thus requires patient and prolonged administration.

Another standard remedy in dermatology is sulphur, and its good effects are often seen where arsenic fails; namely, in seborrhea, acne vulgaris, acne rosacea, and eczema seborrhoicum.

Calcium sulphide is frequently prescribed in furunculosis; and ichthyol, which is also a sulphur-compound, exerts a beneficial influence on the general nutrition. If given over a period of at least three months, ichthyol improves the appetite, regulates the bowels, and brings about a gain in weight, while the seborrhea and acne also show an improvement, especially acne rosacea.

Ichthyol is given in pills or capsules, in doses of 10 to 25 grn. daily. It may be combined with iron and arsenic, as in the following:

| | | |
|-----------------------|----|------|
| Ichthyol | 2 | dr. |
| Iron Lactate | 2 | dr. |
| Arsenous Acid.. | 1½ | grn. |

Make 100 pills. Two or three pills thrice daily after meals.

Salicylic acid and its derivatives are useful in urticaria, erythema, and simple pruritus. Belladonna has also quite a reputation in the same diseases, and may be tried in obstinate cases. Another remedy for urticaria and pruritus simplex is ergot. Besides these, antipyrine and calcium chloride for urticaria, and carbolic acid for pruritus, are recommended. Closely allied to carbolic acid are salol and creosote. Menthol is often useful in itching, applied locally as well as taken internally. Acute skin diseases are often markedly benefited by calomel, owing partly to its efficiency as an intestinal antiseptic.

A rather unusual remedy for skin diseases of microbic origin has been introduced of late—yeast. It is especially recommended in furunculosis. The yeast cells are supposed to combat the pyogenic cocci in the blood. The results have justified this theory. The administration is very simple, a teaspoonful of yeast being given thrice daily in water or beer.

Mercury and the iodides are, of course, indicated in all syphilitic skin lesions, and quinine in those of malarial origin. Quinine is also recommended in herpes zoster and in lupus erythematosus. The latter disease may also be treated with phosphorus internally.

Calcined magnesia, taken regularly for a long time, has been said to effect the removal of common warts.

In the treatment of leprosy we have two remedies: Chaulmoogra oil, of which 20 drops to 2 dr. daily may be taken, and gurgul balsam, given in the same dosage.

All diphtheritic skin manifestations call for diphtheria antitoxin, and tuberculin plays an important therapeutic rôle in skin diseases of tubercular origin, particularly in lupus vulgaris.

The latest phase of therapeutic progress is organo-therapy. Thyroid gland has found extensive use in the treatment of myxedema, psoriasis, scleroderma, and ichthyosis. Similarly, an extract of the ovaries and an extract of the testicles have been given in acne vulgaris, but with results as yet uncertain.

Finally, the influence of springs and baths on skin diseases deserves notice. Sul-

phur springs and sulphur baths often do good in chronic eczema, acne, and seborrhea. Salt baths are useful in scrofulous eczema, and sea-bathing has been found to influence very favorably certain skin diseases, as prurigo, urticaria, and eczema.

[Written for MERCK'S ARCHIVES]

SHOULD WE USE HEART STIMULANTS IN ACUTE DISEASES?

By Ferdinand Schreiman, M.D., Concordia, Mo.

THERE is a paper in MERCK'S ARCHIVES (III, No. 9) under the heading "Expectant Treatment," by A. Jacobi, of New York. The article contains excellent advice. However, I wish to take issue with Dr. Jacobi as regards stimulating the heart in order to support it—that is, to guard against heart-failure. The Doctor writes: "Begin your stimulation at an early period of the illness," ostensibly to guard against heart failure. The question that is to be determined is: does stimulation guard against heart-failure or does it hasten failure? I am aware that Dr. Jacobi is a profound student, thinker, and reasoner, but I feel constrained to take issue upon the above question. When and when not to give heart-stimulants and tonics is the deepest of all the problems in clinical medicine. It is very easy to administer a dose of heart stimulants, but to determine whether the patient is ultimately benefited by so doing is another question. It may give a sense of relief and satisfaction to note the pulse become more forcible, but that is by no means unimpeachable evidence that the patient is ultimately benefited by so doing, that it contributes towards his recovery. We have no standard of measurement to determine what the heart stimulants and tonics contribute toward the condition of the patient. It is speculative at the best. I have given the subject a great deal of thought as long as I have been practising medicine. The conditions to which I have reference in this paper are heart-failure and the causes which tend to bring it about. I have no reference to shock, paralysis, or faulty innervation. To my mind, the whole subject of heart stimulation, with the object in view of supporting the heart in diseases where heart-failure is apt to supervene, resolves itself into physics—mechanical physics.

I, for one, do not believe that heart-failure will occur as long as there resides sufficient energy within the organ to enable it to beat or functionate; or, in other words, I do not believe the heart will fail so long

as there is sufficient energy within the heart to do work. When I refer to the words energy or force, I use them in the sense of ability to do work, as it is work which the heart does.

How do some of the stimulants act? Take digitalis. It contracts the peripheral blood-vessels, and so brings about an increased blood-pressure, thereby throwing more work upon the heart. The same attribute applies to strychnine, strophanthus, and others of the same class. Alcoholic stimulants, however, do not contract the arterioles; they dilate them, but increase the activity of the heart, thereby causing an increased expenditure of force. Some physiologists claim that alcohol is oxidized in the system, thereby yielding force, which is applied as nervous, muscular, and gland force. But let that be as it may, it causes the heart to increase its action, to consume more energy. What is applicable to alcoholic stimulants may be and can be applied in general to nitroglycerin and ammonia and others of their class—they all increase the action of the heart, thereby causing more rapid consumption of energy. But what do they in return impart to the heart to compensate for the increased expenditure of energy? What is being done by them to support the heart? I know of nothing; they do not—with the exception, probably, of alcohol—increase the appetite, nor aid digestion, absorption, or assimilation.

Do the heart tonics support the heart, and thereby guard against heart-failure? It is a maxim in physics that where work has been done, energy has been consumed. What relation do the heart tonics bear to the work of the heart and to the expenditure of its energy? They increase both work and consumption of energy, and in consequence hasten the exhaustion of the heart. There are two ways of supporting the heart: in a positive and negative manner, by the preservation of energy and by replenishing energy. The energy may be preserved by lessening the number and force of the heart-beats, also by decreasing the peripheral resistance, thereby lessening the work. Also by blood-letting, reducing the volume of blood, it thus taking less force to propel it through the capillary system; and the positive manner of supporting the heart is by means of supplying nutritive pabulum which it can appropriate and convert into force, thereby supporting and enabling the heart to do its work. Heart stimulants do not lessen the amount of work, do not lessen the volume of blood, nor do they supply nutritive pabulum. On the contrary, they in-

crease the work, hasten consumption and dissipation, of energy, thereby expediting the heart's exhaustion and hastening heart-failure and dissolution. They only call into action the already present energy, but do not replace any.

I am aware that I am treading upon peculiar ground by taking the stand I am, but I have physiology and physics or dynamics to bear me out. You probably tell me that your clinical experience tells you different, that you have seen good results from the administration of heart stimulants, that your patient's condition has been improved. This only goes to show that there was energy which could be whipped into action. I have heard of and seen cases where stimulants did not make an impression: there was not sufficient energy to be whipped into action, and heart-exhaustion and heart-failure became imminent. The case of the late President McKinley is an illustration. It was reported that the most powerful stimulants did not make an impression. Why did they not make an impression? Simply because there did not remain enough energy to make an impression upon. Take, for instance, pneumonia. Homeopathic physicians claim that hospital statistics show that they have as good or better results in pneumonia than have the regular physicians. Homeopaths do not stimulate in pneumonia and claim as good or better results. I am as far from being a homeopath, or in sympathy with homeopathic principles, as any regular physician, but I think we can learn from them a lesson regarding heart stimulation in the acute febrile diseases: not to use heart-stimulants indiscriminately. Time—to extend the time in the acute and self-limited diseases—is the great desideratum, for the crisis or limitation may occur at any time, and to prolong the life of the patient till it occurs is the victory. Now, do heart-stimulants prolong the life of the patient or do they hasten dissolution? We have seen that they do not preserve energy, but rather dissipate it. They do not supply force, but rather cause an increased consumption of energy.

ICHTHYOL IN TUBERCULOSIS¹

By Charles F. Spangler, M.D., of Kane, Pa.

It is doubtful if any climate can be so perfect that it will not bear some additional means of enhancing its efficiency. While it is true that tuberculous patients occasionally recover by depending upon climatic influence alone, in the sense of

roughing it or listlessly communing with nature, these can be considered as the selective, fortunate few, favored by temperament and otherwise, who are destined to improve under any favorable environment. The trend of the great majority pursuing a similar course is to display a measure of improvement for a time, remain stationary, or lapse into a state of more or less rapid retrogression.

The experience of the last three seasons shows that patients do not respond satisfactorily to the routine treatment of creosote or its derivatives in this section of the Alleghanies. Nearly all patients came to the mountains for the purpose of testing the climate unaided or to continue the creosote treatment instituted previously. After several weeks the slow progress experienced demonstrated the insufficiency of the plan, and the introduction of ichthyol to the treatment resulted, in many instances, in an improvement so marked that the method has been exclusively adhered to in all cases treated during that period.

Among the few who were not amenable to the discipline imposed, by reason of devoting the major portion of the twenty-four hours exposed to the dust and other contaminations of the busy thoroughfares, it has been my impression that the benefit derived in these instances was due more to the ichthyol, in addition to the mental effect of mere change of locality, than to any climatic influence, *per se*.

Nature does not generate a pure, health-giving air amid the bustle of business traffic in any community, nor does it enter the dwelling-place in such environment in search of the distressed; but out in the open country it beckons a welcome, where all in need may find succor, exemplifying the rule "that the thickly populated centers are to be avoided," which applies as forcibly to Kane as to all other health districts.

In the number who were not able to take advantage of the climate for more than a few months it has been observed that the ichthyol, continued under the most favorable conditions in the home environment, resulted in a prolonged extension of the improvement.

Ichthyol possesses a wide range of therapeutic utility by reason of the innocuous form of sulphur contained in its composition. It is acceptable to the stomach, promoting its function; is readily absorbed by the alimentary mucosæ, and when administered in quantity is in turn eliminated by the mucous surfaces in general. In the tissues it possesses, to a high degree, the property of stimulating that function of proto-

¹ Read before the Philadelphia Medical Society and reprinted from its Proceedings, December, 1901.

plasmic life concerned in constructive metabolism, resulting in an increase in bodily weight, and aside from the local impression exerted through the process of elimination, accomplishes its chief curative value in tubercular and other forms of wasting disease through this reconstructive property.

The chief objection to its use is the odor, taste and eructations, which are neutralized to a considerable extent by the use of capsules. In deference to the objectionable features, I several years ago abandoned the custom in vogue of administering the solution in ascending doses, reserving this method for the variety of cases in which the upper air-passages are involved, for the purpose of securing the impression from contact in the act of deglutition. The plan most generally acceptable has been to begin with a No. 1 empty capsule (filled by the patient) after each meal for the first week, adding another to each dose during the second, and a third to each dose the third week. This dosage is maintained indefinitely, and presents the advantage of attaining the maximum degree of tolerance in the shortest time.

If discomfort arises from the eructations the interval between each dose is apportioned to afford ample time for complete appropriation before another is introduced. This is provided for by giving the capsules after breakfast and at bed-hour. Each individual temperament throughout the treatment suggests or determines the most appropriate and effective arrangement of the dosage, and the ability to prolong the treatment indefinitely is dependent upon the delicacy of this adjustment. For in the application of ichthyol, as of any other remedy, a greater degree of harmony can be maintained by having an elastic mode of administration rather than an inflexible method or technique, and endeavoring to compel the varied temperaments to conform to it.

During the first week of the treatment little or no appreciable effect is noticeable in the chest symptoms; after that time, however, a gradual impression becomes manifest. The cough paroxysms lessen in intensity and frequency, the expectoration becomes more profuse, and the sputum loses a measure of its density. Proportionately to the amelioration of local symptoms the appetite improves, and there is usually a marked weekly gain in weight.

Notwithstanding its exceptional service in the chronic forms of the disease, experience proves it of little value in the acute complications. If, at any time, the progress of the improvement is interrupted by the

intervention of a pleuritic or pneumonic attack, which, unfortunately, too frequently occurs in this latitude, the ichthyol is suspended until the acute symptoms subside, when it is again resumed. These complications yield most readily to guaiacol carbonate, thiocol, or phenol hypodermatically, the latter reserved for the cases associated with gastric or intestinal irritability, in which the aversion to food or medicine precludes treatment by that channel. During the early months strychnine in supporting doses has proven a valuable adjunct to the treatment of many cases.

Considering its availability from the view-point of existing conditions, climatic treatment is a luxury only attainable by a small percentage of cases, and until sanatoria are provided by legislation or private philanthropy to accommodate the poorer patients in our communities, who, by their environment, contribute a daily quota to an already congested volume, any improvement in the condition of this class is dependent upon the benevolent inclination of the physician. I would suggest, therefore, that all cases of obstinate cough or persistent irritation of the upper air-passages, particularly when following an attack of grip, pneumonia, or typhoid fever, be placed upon ichthyol and appropriate habit discipline.

Obstinacy in itself is sufficiently suggestive of the suspicious tendency, and since it is well known that the result of treatment is slow at best, why delay the antitubercular measures until the disease has advanced into the stage when its presence is clearly asserted by well-defined clinical features? Why not reverse the customary rule, institute treatment in the pretubercular stage, and extend to the patient the benefit of the doubt? This procedure would prove most effective as a practical common-sense source of elimination on safe lines, materially diminishing the number who ultimately need change of climate. Urge the patient to live in the best available atmosphere; to sleep alone in clean, well-ventilated, carpetless rooms; to practise judiciously upper-waist calisthenics regularly every morning, with moderate deep-breathing exercise when in the fresh air, and there will be much less ill results to record from failure to recognize tuberculosis in its earliest incipency; and in the event of recovery a substantial barrier will be maintained against recurrence.

Some cases are reported:

Case I.—S. N., a Philadelphia bank clerk, white, eighteen years of age, began to cough in November, 1900. This symptom gradually be-

came associated with marked dyspnea, hectic, night-sweats, moderate hemorrhages, and tubercle bacilli. He was treated during the winter with guaiacol and thiochol, which evidently succeeded in restraining the advancement of the disease. He came to Kane early in April, and had a slight hemorrhage the first week. An examination revealed both apices to be implicated. He was placed upon ichthyol, and has continued its use since. Early in June the improvement was such that I yielded to his desire to visit Mount Pocono, where he spent the remainder of the season. In a recent letter he reports having been examined several times during August by Dr. Evans, of Philadelphia, who, with the exception of a slight cough, failed to detect any local signs.

Case II.—F. P., a Philadelphia student, white, nineteen years of age, began to cough two years ago. He came to Kane last July with marked dyspnea, night-sweats, emaciation, bacilli, and evidence of infiltration in both apices and the right middle lobe. He returned to his home recently with a marked improvement in the local condition and a gain in weight of eleven pounds.

Case III.—James M., a night railroad employé of Williamsport, white, thirty-seven years of age, coughed for three years as a consequence of repeated colds, due to exposure. The cough paroxysms gradually increased, the expectoration became more profuse, with dyspnea, hectic, night-sweats, emaciation, bacilli, and frequent hemorrhages. He came to Kane early in June. I found infiltration in the left apex and generally throughout the right lung. He returned to work in September, having gained twenty-two pounds, and reports not having any inconvenience.

Case IV.—J. F., a clergyman of Kane, white, forty-six years of age, has coughed since an attack of la grippe in January, 1901. He exhibited hectic, night-sweats, dyspnea, emaciation, bacilli, and infiltration in both apices and in the right middle lobe. He began taking ichthyol in April. In a recent examination there was absence of any local lesion. He has regained the lost weight and energy, and has resumed his clerical duties.

Case V.—C. L., a carpenter of York, white, thirty-eight years of age. His cough began in May, following an attack of pleurisy. He came to Kane early in September. Examination revealed infiltration in the right apex and the right middle lobe, with bacilli. He has improved steadily, having gained ten pounds, and is anxious to return to work.

Case VI.—C. R., a book-keeper, of Kane, white, thirty-five years of age. Trouble dates from an attack of la grippe in February. Infiltration of the right apex existed, and also of the middle lobe, with bacilli. He returned to work in October, having fully recovered.

Case VII.—J. C., an Italian, of Kane, is forty-two years of age. Cough followed an attack of pneumonia last winter. There were marked dyspnea, hectic, night-sweats, emaciation, and bacilli in abundance. The left apex and the left lung were generally infiltrated. He continued the ichthyol during the spring and summer months, returning to work in October, greatly improved.

Case VIII.—Mrs. K., of Kane, white, forty-five years of age. Her cough began in October, 1900, subsequent to an attack of la grippe. An examination in April revealed infiltration of the right lobe generally; there were bacilli, marked emaciation, and debility. In September she was able to resume her usual household duties, with only a trace of the local condition discernible.

DISCUSSION

Dr. Thomas J. Mays said that fourteen years ago he had commenced to use ichthyol in the treatment of tuberculosis. The fault in his use of this treatment, he infers from Dr. Spangler's paper, was in not pushing it far enough. Dr. Mays commenced with grain doses, increasing the dose to 4 grn. every four hours. He was convinced that the treatment had done great good. Some patients had improved under this more than under anything else he had seen up to that time. These observations, however, had not been sustained by his subsequent experience. This was due, he thought, to not having given the drug in sufficiently large quantities. Every drug and every case has its peculiarities, and much study and experience are required to properly adapt one to the other under all conditions. He expected to profit from Dr. Spangler's paper, and would take up the subject again at some future time.

Dr. Guy Hinsdale said he had not used ichthyol in tuberculosis, but had used creosote. He remarked upon the difference in the age of ichthyol and of creosote as remedies in tuberculosis. He had not known, until Dr. Mays spoke, that ichthyol had been used so long ago as fourteen years. Dr. Mays must have been among the very first to have used this remedy. Creosote had been used since 1837. In looking up the matter Dr. Hinsdale was surprised to know that it had been so long before the medical profession. According to Louis,² M. Rampold reported that it was a useful remedy in certain cases, but that it should be withheld when there is a dry cough, fever, or active hemoptysis. Elliotson also reported in 1838 a cure following the use of creosote in a case of pulmonary phthisis with cavity.

Moritz Cohn, of Hamburg, was probably the first to use ichthyol in tuberculosis because of its bactericidal qualities. He used it in over one hundred cases of phthisis during two years, and the results were uniformly good. The ichthyol was mixed with an equal quantity of water, and of this 4 drops, well diluted with water, were administered three times daily. This was increased by 1 drop daily. In a later report Cohn³ reaffirms his good opinion of ichthyol, many of his earlier cases having continued to improve. Ichthyol seemed to act in two ways—partly as hindering bacterial growth, partly as lessening nitrogenous

² "*Recherches sur la Phthisie*," Paris, 1843, p. 642.

³ *Deut. med. Woch.*, 1896, July 9.

metabolism—and there were no secondary poisonous effects. Cohn did not claim any direct action on the tubercle bacilli in the human body, but it saves the strength of the human organism and puts it in a better position to counteract bacilli that have entered. His best results were in early apex cases, in some of which all symptoms disappeared while under this treatment. Advanced cases were also benefited; there was improvement in cases, also, where creosote and cod-liver oil failed. Ichthyol failed very naturally in many cases of large excavation and high fever. It has an advantage over creosote in being non-toxic. The disagreeable taste is partly corrected by a little coffee taken afterward.⁴

Scarpa,⁵ of Turin, used ichthyol in 150 cases of pulmonary tuberculosis, giving as high as 180 to 200 drops daily. He noted considerable improvement, owing to better nutrition, lessened cough, expectoration, and dyspnea. Physical signs also improved.

Dr. J. Edward Stubbett, of the Loomis Sanitarium, at Liberty, N. Y., has used ichthyol in a double gelatin-coated pill termed "enteric" pills, so that absorption shall take place in the bowel. He says that the best results are obtained from the administration of large doses, and if the drug is given in such form as to pass the stomach undissolved, amounts of 20 grn. three times a day are easily borne, and untoward effects are few. An occasional diarrhea, or an attack of vomiting, which is preceded by the taste of ichthyol, may occur; these symptoms quickly subside upon the withdrawal of the drug, and with its resumption the dose which caused the above-mentioned symptoms can usually be given without further trouble.

The improvement is rapid, and within one month, in individual cases, where other beneficial factors would be eliminated, there may be a gain in weight of 8 or 10 pounds, and in those patients whose weight had previously, and under different surroundings, remained stationary for long periods of time. There is improvement in general nutrition, as evidenced in females by return of menstruation. The fever, sweats, and cough diminish, the sputa are more easily brought up, the quantity is less, and the character changed from greenish-yellow to yellow, finally becoming mucoid and frothy. In some instances expectoration is too quickly reduced, and patients experience difficulty in raising the sputa. In cases far advanced, those having a cavity with excessive expectoration, when ichthyol acts well the effect is striking, and it is

more than suggestive of the important part played by the secondary infection in tubercular processes. Ichthyol changes the character from the fetid, decomposed purulent sputum into that which is mucoid and frothy; ameliorates the symptoms of fever, chills, sweats, and general failure of nutrition dependent upon the absorption of pus products, so that it may be said that in such cases ichthyol practically accomplishes drainage and, what is more important, tends to convert the function of the pyogenic membrane into one which secretes mucus instead of pus. The debilitating effect of pus absorption are put aside, and there is general improvement noted.

In speaking of the treatment by Dr. Stubbett, Dr. Hinsdale said that he had been at the sanitarium, and, while they have every advantage of climate possible this side of the Rocky Mountains, they use remedies as well. The sanitarium is conducted in an admirable manner, and was generously supported by friends from New York and by patients who were able to pay. Ichthyol, creosote, and other forms of treatment were used, and Dr. Hinsdale thought it gratifying to see such reports as those sent out by the sanitarium. He thought Dr. Spangler did well to bring the matter before the profession. If ichthyol is used, it ought to be in a manner that would not disturb the stomach. If put into these capsules or enteric pills it will reach the part where absorption will take place without interfering with digestion.

Dr. Spangler, in closing the discussion, said the objection to using ichthyol in pill form is the inability to incorporate more than a few drops in each pill, necessitating the employment of several dozen daily. The composition of the pills designed to resist the action of the gastric juice would in all probability result in a loss of medicinal value, especially when intestinal digestion is enfeebled. In taking ichthyol in capsules, patients notice the eructations during the first few days, but by lengthening the interval, as suggested, this difficulty is overcome. In the treatment of tuberculosis at least 50 per cent. of the benefit must ultimately come from the interest taken by the patient in exercising the muscles of the chest and by deep breathing for the purpose of stimulating drainage and cultivating greater lung capacity. Exercise, general or local, should always be judiciously apportioned with rest, and care taken to avoid overfatigue. Medicine renders its service in the initial recovery, but it cannot supply the inhibitive power required for future protection; this must come from the self-aids.

⁴ *Deut. med. Woch.*, 1894, No. 14.

⁵ *British Med. Jour.*, 1895, No. 1787.

THE TREATMENT OF HABITUAL CONSTIPATION¹

By Drs. Knopf, Loveland, Ackert, and Barclay

DR. S. A. KNOPF thus outlines the treatment of this obstinate disorder. The very first thing to do when called upon to treat habitual constipation is to produce a movement of the bowels, and this is best accomplished by means of calomel in fractional doses, prescribed in rabbits in doses varying with age. Children between one and four years will take $\frac{1}{20}$ to $\frac{1}{10}$ grn.; children from five to ten years, $\frac{1}{10}$ to $\frac{1}{5}$ grn.; children from eleven to fifteen years, $\frac{1}{5}$ to $\frac{1}{3}$ grn., and adults from $\frac{1}{3}$ to $\frac{1}{2}$ grn., every half hour or hour, until two free movements take place. As many as 10 to 20 tablets may be necessary to accomplish this purpose. The best time to begin administration is one hour after a meal. The diet on that day should be light, consisting of milk, soups, and eggs. Sometimes one or two large doses of calomel will act better, and should be followed in twelve hours by a saline draught to avoid the danger of salivation.

The next day a combination of educational, mechanical, hydrotherapeutic, electrical, dietetic, and medicinal measures is to be inaugurated, after a careful study of the case.

The patient should be taught to go to the closet once or twice every day. Especially children and young girls are in need of instruction on this point. The time of day for evacuation should always be the same, preferably in the morning, before or shortly after the first meal. The patient should not hurry with the act, not read or think of other matters, but concentrate his energies on the proper fulfilment of the function. The normal evacuation is free, painless, and the normal stool semi-solid. The patient should know this. Pregnant women, especially, should be taught to attend to their bowels regularly, and never to take a laxative unless ordered to do so by a physician, for fear of causing premature birth.

Equally important is the proper hygienic régime. The teeth should be cleaned after each meal with toothpick, brush, and water; diseased teeth should be attended to, meals taken regularly, eaten slowly, and well masticated. No reading or difficult thinking during meals is allowable. Meals ought not to be taken in workshop or office, or when tired from work. After eating a short repose is necessary, from one-half to one hour. The water-closet should be well aired, and comfortably cool or warm ac-

cording to season. Soft toilet paper should be used and, if possible, the anus cleaned with some water.

The mechanical means of overcoming chronic obstipation consist in walking and deep breathing in the fresh air, alternate contraction and relaxation of the diaphragm, outdoor exercise and sports, when indulged in moderately.

The natural squatting posture during stool is advantageous, or the same purpose may be accomplished by placing the feet on a high foot-bench while sitting on the closet.

Massage comes next, and comprises circular friction and kneading around the umbilicus from right to left, and along the colon. The patient should lie on a hard mattress, with head slightly raised and knees drawn up. Patients show a different degree of toleration for massage, and individualization is necessary. The best time for this manipulation is in the morning, and never after a principal meal. The process should not occupy more than ten minutes, and rest should follow, after which a short walk or some exercise is advisable. Massage is often ineffectual in the obese.

An occasional resort to a glycerin suppository deserves mention. The insertion of it is also advisable after an imperfect evacuation, when the feeling of fulness in the lower bowels is present. This simple remedy will often succeed in completing the evacuation, to the great relief of the patient. Suggestive treatment should also receive due consideration, cheerful and encouraging words being often serviceable.

Hydrotherapy may be external or internal. Hot-water enemata should not be used as a routine measure, as they tend to diminish still further the impaired tone of the lower bowels. When enemata are indicated, the injection of 1 to 2 oz. of glycerin or 10 oz. of linseed oil should alternate with the hot-water injection. Half a tumbler of cold or hot water, taken every half hour, beginning one-half to one hour after a light breakfast, is a most valuable adjuvant in chronic cases. Cold-water compresses over the abdomen at bedtime and gentle abdominal douches of cold, or hot and cold water alternately, morning and evening, are useful, as is also a cool sitz-bath or simple friction with cold water. All these measures stimulate the peristaltic movements and tend to revive the lost muscular tone of the intestines.

Good results are in some cases obtained from electricity. Both electrodes may be placed on the abdomen, or one inserted into the rectum.

Dietetic treatment includes the use of

¹ *N. Y. Med. Jour.*, LXXIV, No. 17.

more liquids, vegetables, fruits, and laxative articles of food in general. All waters—pure, hot, cold, or carbonated—are recommended; also dilute white wine, light beer, grape-juice, and other fruit-juices free from astringents, kefir, weak coffee, broths, bouillon, oyster-soup, plenty of good butter. Spinach, cauliflower, onions, green peas, string-beans, potatoes, carrots, turnips, a moderate quantity of cabbage, salads with good olive oil and lemon juice, cucumbers, and tomatoes are all useful. Also all fruits, raw or cooked, especially stewed prunes (twice daily), figs, apples, peaches, pears, grape-fruit, oranges, melons, cherries, grapes, and berries without large seeds. Furthermore all kinds of fresh and tender meat and poultry. Bread, preferably at least one-day old, is useful. All alcoholic beverages are to be avoided, also chocolate, tea, strong coffee, and milk, if it constipates the patient, otherwise it is permissible.

Pork, veal, game, smoked fish, cheese (except fresh cream-cheese), hot cakes or biscuits, and fresh warm bread are injurious to the constipated patient.

Little children and infants require particular care in their diet. A good part nitrogenous and starchy food is to be replaced by vegetables, cooked fruits, butter, and graham bread. Stewed prunes with plenty of juice are of especial value, given without the skin, which is hard to digest. Water, or vichy, etc., is to be given to children in abundance. Exercise is as useful as in adults.

Medicinal treatment comes last, and may often be dispensed with altogether. If used at all, never give the same remedy for any length of time, and never use a drug which demands a gradual increase of dosage, but rather seek to diminish the dose little by little. If the stools are clay-colored and fetid, calomel is the best remedy, given as stated before. A few teaspoonfuls of olive oil act as a mild laxative. Castor-oil is good occasionally, given as a "sandwich" between two layers of orange juice. Occasionally, a saline purgative is allowed, like potassium and sodium tartrate, sodium sulphate, magnesium sulphate, etc., or mineral waters containing these salts.

Cascara sagrada is the best of vegetable laxatives for occasional use, in the form of the fluid extract. Rhubarb, senna, and tamarinds are also serviceable. For children, syrup of manna is an excellent preparation.

In general, it may be emphasized that the constipated patient and not the habitual constipation is to be treated.

Dr. B. C. Loveland dwells on the im-

portance of drinking freely of water. He considers neglect of this to be a cause of chronic constipation, by leading to relative dryness of the intestinal contents. Equal attention should be paid to the regularity of evacuations. Too concentrated food gives a small amount of intestinal contents and favors peristaltic laziness, as it were. Therefore, at least two quarts of water must be taken daily.

While sitting on the closet, the body may be swung forward, so as to compress the abdomen against the thighs, and then backward, until the trunk is erect. This exercise, slowly and conscientiously carried out, will assist in producing an evacuation.

Exercise directed towards developing the abdominal musculature is advised, as rowing, walking, horseback riding, cycling, flexing the thighs on the abdomen, squatting down and rising up, bending forward and backward, etc.

Faradic currents and cool bathing of the abdomen are valuable measures, as is also massage of the abdomen.

All cathartics should be avoided as much as possible, and only the smallest sufficient doses employed, when necessary. Nuxvomica, aloes, cascara, sodium phosphate are extensively prescribed. Often it is well to use a little oil per rectum with other remedies.

Dr. W. S. Ackert, speaking of the disease in children, remarks that infants may be constipated as a result of maternal constipation, and treatment should be directed to the mother's trouble. In bottle-fed infants improper feeding is usually responsible for constipation. By increasing the amount of fat, by substituting oatmeal-water for pure water as a diluent, good results may be obtained. A teaspoonful of orange juice is another valuable adjuvant in children. One-half to one drachm of sweet oil, taken morning and evening, often acts beneficially. The elixir of cascara sagrada in 10 to 30-drop doses at bedtime, or three times daily, is very efficacious in restoring the muscular tone.

In the constipation of adults, besides hygienic and dietetic measures, strychnine is a most valuable drug, and may be combined with belladonna, aloin, podophyllin, and cascara. A well-known combination contains $\frac{1}{5}$ grn. of aloin, $\frac{1}{10}$ grn. of strychnine, $\frac{1}{8}$ grn. of extract of belladonna, and $\frac{1}{2}$ grn. of ext. cascara sagrada, one to be taken at night, and repeated in the morning, if necessary.

For cases with sluggish liver action, a grain of blue mass may be combined with $\frac{1}{4}$ grn. of aloin and $\frac{1}{4}$ grn. of podophyllin,

and given at bedtime for several nights in succession. Or, calomel in fractional doses, say $\frac{1}{6}$ grn. every half hour for twelve doses, followed next morning by a seidlitz powder, may be prescribed. From time to time, a compound cathartic pill can be employed. Cascara can be relied upon to the greatest degree, and the elixir may be given in dram doses, one to three times daily, gradually reducing the amount. It may be combined with malt extract or other tonic. In anemia, iron with gentian or some other tonic is to be given with the laxative. Finally, a visit to a mineral spring will often aid in establishing a cure.

Dr. Wm. F. Barclay also emphasizes the great importance of habit in the causation and treatment of habitual constipation. Schools, he remarks, are responsible for this disorder "more than any other agency in our economy of life." Americans suffer from constipation more than any other nation, owing to improper food, hasty eating, neglect of nature's calls, etc.

More physical exercise, more attention to the function of evacuation, combined with a judicious drug-treatment, are often successful. Physical exercise of a few minutes daily, especially in persons of sedentary habits, is an invaluable adjuvant to treatment.

Of drugs, calomel is the best intestinal antiseptic, acting on the entire intestinal tract. It is best given in small doses, with 20 to 30 grn. of milk-sugar or sodium bicarbonate. Second to calomel is sodium phosphate, given in doses of 1 dram in a pint or quart of warm water at bedtime. This treatment can be continued indefinitely without doing any harm to the patient. Sodium phosphate produces an uncontrollable desire to evacuate the bowels the following morning, and thus aids in overcoming the habitual constipation.

Women are more liable to this disorder than men, and are more difficult to treat.

ICHTHYOL IN PULMONARY TUBERCULOSIS

According to Dr. Astrakhan,¹ ichthyol is productive of good results in tuberculosis. The writer has used it in numerous cases, giving as much as 16 min. at one dose, and up to 1 dr. daily. He begins with a 3-grn. pill of ammonium and sodium sulph-ichthyolate, and orders one pill thrice daily, gradually increasing to eight pills three times daily. Or, the remedy is given half-diluted with water and glycerin, beginning with 4 drops and increasing to 30 drops thrice daily.

TREATMENT OF TUBERCULOSIS IN INFANCY AND CHILDHOOD, WITH SPECIAL REFERENCE TO THE USE OF GUAIACOL¹

By B. K. Rachford, M.D., Cincinnati, O.

TUBERCULOSIS in infancy and childhood is essentially a disease of lymphatic structures.

The tubercle bacillus finds its entrance into the body, as a rule, through the lungs and intestinal canal, and is arrested by the tracheo-bronchial and mesenteric lymph nodes. This may be accomplished without injury to pulmonary or intestinal tissue. These nodes may hold the bacilli for an indefinite length of time, and as the number of bacilli increases, the contest for supremacy between the bacilli and the leucocytes goes on. In the great majority of instances these lymph nodes are a sufficient safeguard against the disease, and the bacilli are either destroyed or held captive, so that they can cause no material injury to the organism as a whole. But when the number of bacilli is overpowering, or when the contagion occurs in those who have inherited from tuberculous ancestors a type of lymph-node tissue less capable of resisting the tubercle bacillus, the story is a different one. In these susceptible children the tubercle bacilli, finding entrance into the lymph nodes, are capable of producing great destruction of tissue, and as the unequal fight goes on, the bacilli escape into neighboring nodes, and chain after chain of mesenteric and tracheo-bronchial lymph nodes become infected, and an active and destructive tuberculosis is under headway. If the disease is not arrested, other lymphatic chains become involved, the spleen is enlarged, and a diffused tuberculosis is established.

It is important for us, as physicians, to know that lymph node tuberculosis in childhood may be, and usually is, for a long time, a local disease confined to the lymphatics of some special part of the body. The tracheo-bronchial and the mesenteric lymph nodes are, however, the most important, not only because they are the most common sites of tuberculosis in infancy and childhood, but also because the disease may remain in these nodes for a long time, producing widespread destruction, without any very marked involvement of superficial lymphatics or without any of the ordinary symptoms of tuberculosis; that is to say, tuberculosis in infancy and childhood may be and usually is, for a long time, so concealed as to escape detection, if one depends

¹ *Pratch*, XXII, No. 44.

¹ *Archives of Pediatrics*, Dec., 1901. Read by title before the American Pediatric Society.

for diagnosis upon the ordinary and well-defined symptoms of tuberculosis in the adult. This localized form of tuberculosis which may exist for months or years, gradually progressing to other and incurable forms, is the type of tuberculosis which is amenable to treatment, if it is recognized early enough and appropriate measures are adopted. But if the disease is allowed to progress and become more general, there is the ever-present danger that intestinal tuberculosis, meningitis, or acute miliary tuberculosis will develop and place the patient beyond all hope of recovery.

The prognosis, however, of tuberculosis in childhood is, on the whole, very much better than tuberculosis in the adult. Very many of the cases of tuberculosis that one meets in private practice, among children, are amenable to treatment. This is true, not only of the cases of localized lymph node tuberculosis, but also of tubercular peritonitis and the milder forms of intestinal, pulmonary and chronic diffused tuberculosis, and most important of all is it, that these cases can as a rule be satisfactorily treated *at home* without the aid of the climatic and other advantages afforded by favorably located sanitariums.

The above statements emphasize the importance of the early diagnosis of concealed tuberculosis, and for this reason a short *résumé* of the symptomatology of this condition is here outlined.

Symptomatology of Tuberculosis of the Lymph Nodes.—Experience leads the physician to suspect this condition when he is confronted with a certain type of child. It is difficult to draw a mental picture of the appearance which the tuberculous child presents to the trained eye of the physician. These children, as we see them in private practice are, as a rule, nervous, irritable, undersized, slender-limbed, oval-faced, fair-haired and dainty little creatures, and we are at once impressed with their frailty. They have bright eyes and thin, transparent, fair skin, which makes them very attractive. There is another and less common type of the tuberculous child which is usually described as having a heavy figure, thick lips and hands, opaque skin and large thick bones.

Anemia without apparent cause is very suggestive of tuberculosis of the lymph nodes. The progressive anemia which marks the progress of this form of tuberculosis is a very pronounced symptom, and is much more characteristic of the disease as it occurs in the infant and child than it is in the adult.

The anemia grows apace as the disease

spreads through the lymphatic tissues, until finally it becomes very extreme. If one can eliminate malaria, syphilis, rheumatism, and intestinal disorder as causes for the anemia, one is justified then in suspecting a concealed tuberculosis, even though there be no other symptoms to assist in the diagnosis. When, in an instance of this kind, one can find a family history of tuberculosis, and also, which is of equal importance, a history of exposure to the tuberculous contagion, one is then quite justified in making a provisional diagnosis of tuberculosis and at once instituting proper treatment. If in addition, however, one learns that the child has lost in weight, or has even failed to gain in weight, which in the young child has the same significance that loss of weight in the adult has, then we have established another link in the chain of circumstantial evidence. Further inquiry may perhaps develop the fact that the child is excessively nervous and that it is suffering from night terrors or nocturnal incontinence of urine.

Precocious anemic children suffering from general nervous irritability should always be searched for other signs of concealed tuberculosis. By still further inquiry one may learn that the child suffers frequently from mild attacks of bronchitis, that it catches cold readily, and may also have pain in the side on slight exercise. This last symptom may be accompanied by dyspnea and rapid heart action. The pain in the side on exercise, however, and the proneness to catch cold are oftentimes most significant and important symptoms in the early diagnosis of tuberculosis in childhood.

Dyspepsia and diarrhea, obstinate in character and unaccounted for by errors in diet, are also common symptoms of this form of tuberculosis. This is especially true of the disease as it occurs in the infant. A history of feeble digestion, frequent and obstinate attacks of diarrhea, sometimes alternating with constipation and associated with *enlargement of the spleen*, and possibly of the liver, presents a symptom group which at once suggests mesenteric tuberculosis. These are the cases which afterward develop enormous and board-like abdomens, with contracted chests, flaring ribs and emaciated bodies, which give us the well-known picture of *tabes mesenterica*.

It is well, however, to remember that many of these cases of tuberculosis in the infant and child may have a long-continued and wasting diarrhea without actual ulceration of the intestine, and are therefore amenable to treatment.

All of the above symptoms may exist without any very pronounced change in the temperature of the body. These tuberculous children, however, may have over a considerable period of time, an afternoon temperature reaching from 102° to 104° , and yet be upon their feet and protest that there is nothing the matter with them. Fever of this character without the ordinary accompanying discomforts, is suggestive of tuberculosis. The temperature, however, of patients suffering from tuberculosis of the lymph nodes is by no means an indication of the progress and extent of the disease. The presence of external lymph node enlargement is of itself not indicative of deep-seated disease. The gradual increase in size, however, of superficial lymph nodes, especially in the neck and groin, may, when associated with other symptoms above recorded, be significant. It is also well to remember that the diagnosis of obscure tuberculosis may sometimes be confirmed by the appearance of tubercles in the retina.

In the above group of symptoms no one is characteristic of tuberculosis, but taken collectively as they appear in various groupings in cases of early tuberculosis of the lymph nodes they are sufficient to aid us in arriving at a diagnosis.

Treatment.—The keynote to the treatment of tuberculosis in infancy and childhood is to maintain nutrition by a proper diet. This may be said to be the most important indication in the treatment of this disease at all ages. But the importance of nutrition becomes more and more paramount the younger the patient, and in artificially fed infants the problem presented is one of the greatest difficulty.

The tuberculous infant under one year of age that does not happen to have a non-tuberculous mother from which to draw its breast-milk is indeed in a bad way. These children, as has been previously noted, have feeble digestions and suffer frequently from diarrhea. They cannot, as a rule, digest the casein of cow's milk, and, therefore, cannot be properly nourished with artificial foods. A wet-nurse is, for these reasons, almost absolutely necessary for the proper management of young tuberculous infants: and even after the first year of life it is found necessary, as a rule, not to depend exclusively upon cow's milk, otherwise casein indigestion and diarrhea will bring disaster.

We may, however, when a suitable wet-nurse cannot be obtained, be forced to artificial feeding. Under these conditions certain proprietary foods are sometimes used with benefit.

When the stools become normal under the artificial food, cod-liver oil, in the form of an emulsion, or the clear cod-liver oil, is added to several of the feedings, until an infant, a year or a year and a half of age, is taking from $1\frac{1}{2}$ to 2 teaspoonfuls of cod-liver oil in twenty-four hours. After a time the author also adds the white of one egg to one of the feedings and the yellow of an egg to another. In this way after a few weeks of treatment the little patient may be in a condition to commence the gradual substitution of dilute cow's milk for the artificial food; but even after this substitution has taken place the cod-liver oil and the raw egg are still added to the milk mixtures. This is necessary, because these children for many months are not able to take a mixture stronger than one-half milk. It requires constant watchfulness to properly feed and nourish these infants.

In older children milk and cod-liver oil remain the foundation-stones of the treatment. One of the important advantages gained by sending tuberculous children to the country is that there they may get clean, rich, fresh cow's milk in unlimited quantities. The other food of the tuberculous child should also be carefully selected. He should be given fresh eggs, good beef and poultry, and to older children cereals, fresh fruits, and well-cooked vegetables may be allowed. Sweets, pastries, and in short all foods difficult of digestion should be excluded from his diet. The dietetic treatment of this condition ranks above all other measures.

The next most important agents in the treatment of tuberculosis in childhood are fresh air and sunshine. These can, as a rule, be obtained in the suburbs of even our largest cities, and in most of our smaller cities they can be obtained without any change of home whatever.

Exercise is not an essential part of the fresh-air treatment. In fact, it is contraindicated in all acute cases marked by high fever or other symptoms indicating rapid progress of the disease. Patients of this kind are to be placed out-of-doors in baby carriages, beds or chairs, and thoroughly protected from the weather by suitable clothing. In the more chronic forms of the disease not marked by high fever and other acute symptoms, gentle exercise and lung inflation may be a part of the fresh air treatment.

Medical Treatment.—The special purpose for which this paper was written was to call attention to the great value of guaiacol in the treatment of tuberculosis in in-

fancy and childhood. Guaiacol, in the author's opinion, far outclasses all other drugs in the treatment of this condition.

In 1894 the author called attention to the great value of inunctions of guaiacol and recommended the following prescription:

| | |
|---------------|------|
| Guaiacol..... | ℥ i |
| Wool-fat..... | ℥ ii |
| Lard..... | ℥ v |

One level teaspoonful to be rubbed into the chest at bed-time each day.

This prescription he has used for the past eight years in almost every case of tuberculosis in infancy and childhood which he has had an opportunity to treat, and the experience which he has had with this prescription, in many hundreds of cases, has convinced him of its great value.

It is a well-known fact that guaiacol is one of the few drugs which, when it is applied to the skin, is rapidly absorbed by the lymph channels, and is in that way carried into the general circulation, producing the physiological action of the drug. Its great value in the treatment of the lymph-node tuberculosis of infancy and childhood in all probability depends upon the fact that by inunction it can readily be brought into contact with the diseased lymph nodes, and in that way act as a lymphatic antiseptic.

Inunctions of guaiacol, notwithstanding their great value in the treatment of tuberculosis of infancy and childhood, are of comparatively little value in the treatment of this disease in the adult. The reasons for this are evident. In the first place the general lymphatic and glandular systems are more active in the child than they are in the adult, and in the second place adult tuberculosis is not, as a rule, tuberculosis of the lymph nodes.

In acute tubercular conditions marked by fever and other active symptoms, the author ordinarily directs that a level teaspoonful of the above ointment be rubbed into the skin over the abdomen and chest night and morning. The rubbing should be done gently and firmly and should occupy ten or fifteen minutes. This treatment may be continued for from one to two weeks, and then one inunction a day may be continued for an indefinite length of time. It is well, however, after the fever and other active symptoms have been controlled, either to discontinue the inunctions for a while or to give them two or three times a week as long as it may be deemed necessary. This treatment is of the greatest value in all forms of lymphatic tuberculosis, and even when long continued can do no harm.

In tubercular peritonitis the good results which follow the use of this treatment commence at once and the patient, as a rule,

slowly but steadily recovers. The author has frequently seen the distended, tender and board-like abdomen, which this disease produces, lose its tenderness, distension and tumidity to a degree which marked the establishment of convalescence within a period of three weeks.

In these cases when the active symptoms are in abeyance he frequently substitutes guaiacol carbonate internally for the inunction treatment. Guaiacol carbonate has the advantage of being easy of administration, and when mixed with a little milk-sugar can be given in powder, without complaint from these whimsical little patients. The value of guaiacol carbonate in the treatment of all forms of tuberculosis in infancy and childhood is very great, but it is especially valuable in the treatment of intestinal and mesenteric tuberculosis. Guaiacol holds first rank as an intestinal and as a pulmonary antiseptic. And it is possible that a large part of its beneficial action may depend upon its power to control and destroy the streptococci, which are constantly associated with the tubercle bacilli in the destruction of tissues.

Creosote, which has for many years held first place among drugs in the treatment of adult tuberculosis, is also of value in the treatment of tuberculosis in infancy and childhood. It cannot, however, be used very satisfactorily as an inunction, and its disagreeable taste is a very serious drawback to its successful use in tuberculous diseases of children. Since tuberculosis is a chronic disease, and since children suffering from it are as a rule whimsical and self-willed, it requires a great deal of tact to medicate these children. The medicines must be so palatable that these little patients will take them without a struggle, otherwise the indulgent mother will soon discontinue the treatment. For this reason creosote is available only in well selected cases and in older children, when it may be used in connection with guaiacol inunctions. Children old enough to take a capsule may be given the following prescription:

| | |
|---------------------------|-------|
| Tinct. Gentian..... | ℥ iss |
| Creosote (Beechwood)..... | ss |

Drop 3 to 5 drops in a capsule and take every six hours, followed by a drink of milk.

Inhalations of creosote are also of considerable value in the treatment of older children suffering from pulmonary tuberculosis. For this purpose the following formula may be used:

| | |
|---------------------------|------|
| Tinct. Opi Camph..... | ℥ ii |
| Creosote (Beechwood)..... | ℥ ii |
| Alcohol..... | ℥ iv |

5 to 15 drops in creosote inhaler, use for fifteen minutes or more, three times a day.

Older children do not object to creosote by inhalation or to the creosote in capsules, so that these prescriptions may, under favorable conditions, be continued for a number of weeks without becoming distasteful to the patient. To infants and younger children, however, below the age of eight, the author rarely attempts to give creosote in any form; this is because he has much more faith in the efficacy of guaiacol and it is much easier of administration. In chronic forms of tuberculosis or even in acute tuberculosis, after the active symptoms have been controlled by rest, fresh air, diet and the guaiacol treatment as above outlined, cod-liver oil is one of our most valued remedies and should be given as a routine practice to all such cases. Mention has previously been made of the fact that it can be successfully administered to the infant, mixed with the food in the nursing bottle.

Iodide of iron, as well as other preparations of iron, are of value in treating the anemia of tuberculosis, after the disease has been brought under control by the treatment previously outlined. In the presence of fever, however, and other active symptoms, the iron salts, including the iodide, probably do more harm than they do good. The iodide of iron, however, has long enjoyed a favorable reputation in the treatment of the more chronic forms of glandular tuberculosis. This reputation no doubt is in great part deserved, as many of these patients are greatly benefited by this drug. Care, however, must always be taken not to allow it to disturb the digestion or injure the appetite since it is a cardinal rule in the treatment of tuberculosis that anything that interferes with the taking or the digestion of food, will, by interfering with the nutrition of the patient, do more harm than it can possibly do good.

Arsenic is a remedy also of value in the treatment of the most chronic forms of glandular tuberculosis. Enlarged tubercular lymph nodes will oftentimes grow smaller under its use.

Malt containing diastase may also be of considerable value in well-selected cases. Taken after meals it will oftentimes assist digestion, and in that way promote the appetite and bring about a better condition of nutrition.

While it is not the purpose of this paper to discuss the surgical treatment of tuberculosis, mention may here be made of the facts that the removal of tuberculous bones and lymph nodes is not only at times expedient but is often necessary, and laparotomy for tubercular peritonitis has been followed by very satisfactory results.

POISONOUS PLANTS WHICH GROW WITHIN OUR BODIES, AND HOW TO CONTENT AGAINST THEM¹

By H. H. Rusby, M.D., New York

It has now become a matter of common knowledge that many of our most dreaded diseases are caused by bacteria, or "germs," as they are popularly designated. It is the object of this lecture to direct attention to these bodies as plants, to consider their poisonous action and our methods of defence against them.

As plants, they agree fairly well with various members of the Fungi, with which they are commonly associated in classification. They obtain their food for the most part in the same general manner, by tearing down organic compounds, and making use of the simpler chemical substances thus produced, which they take in by a simple process of absorption over the entire body-surface. They are, like other plants, of cellular structure, though of but a single cell. They are noted for their small size, the united length of many thousands being required to measure an inch. A great many of them, like other lowly organized plants, possess the power of locomotion, and travel about by means of cilia. They show the same variation in healthfulness and luxuriance, according to the special suitability of their growing medium or environment, that other plants do in regard to their soil, climate and exposure. Though certain forms are grown for utility, those which cause consumption, diphtheria, typhoid and kindred diseases are studied chiefly to discover what conditions will destroy them, or at least tend to inhibit their development or physiological activity, or counteract the injurious effects of the latter. Their dependence upon special conditions, or upon certain soils, as we might well express it, is evident in the ability of certain bacteria to grow, at least with their customary form and vigor, only in certain organs of the body. Even this power is limited to certain individuals, for we often find them in healthy persons, alive, but unable to grow or to cause the appearance of their particular diseases. It is even more significant, and far more important, that in the same body the germs will be able to thrive at one time but not at another.

It is also a notable fact that in the case of some disease-producing bacteria, the luxuriance with which they develop, and even more particularly the violence of the diseases which they produce, depend in a high degree upon their association with

¹ *Jour. of Pharmac.*, VIII, No. 6.

other species. As a case in point, the species which produces tetanus or lockjaw cannot live where there is a free access of fresh air or oxygen; but if it can associate with itself another species, which does consume oxygen, the two can thrive together.

Upon the other hand, there are cases in which such association is adverse to the welfare of the germs. This fact has been utilized by introducing the plants of erysipelas to the systems of those suffering from sarcoma, a disease presenting many similarities to cancer. The latter has been entirely cured in some cases, greatly benefited in many others.

It should be noted, also, that to a greater extent than any other class of plants, perhaps, bacteria possess the power of adapting themselves to adverse conditions. After fully accustoming themselves to a new order of things, they may even grow and develop with all the vigor natural to their previous condition, though usually they do not thus learn to thrive, but gradually lose their vitality or virulence, which may sometimes be again restored by transplanting them to a favorite soil. Thus the lockjaw bacillus, much as it dislikes oxygen, can come to live in the lungs themselves, though none of its characteristic poison can be produced there.

These peculiar properties of bacteria have, of course, to be seriously reckoned with in the selection of all methods for combating them and their effects. They often increase greatly the difficulties under which such action is pursued, though modern science has sometimes found it possible to utilize these very peculiarities in devising measures which shall prove protective.

In reproduction, bacteria depend chiefly upon the method of simple body-division, and have thus come to be generally known as "fission" plants. The new individuals may at once separate to lead independent lives, or they may remain in the pair, or many connected pairs, resulting from the dividing process. They differ from other plants in the enormous rapidity with which this process is performed. A few minutes are ordinarily sufficient for the perfect development and maturity of the progeny. It thus becomes apparent how in such diseases as anthrax, where these plants develop freely in the blood, the latter can in some places become within a few days almost a solid mass, the blood vessels be completely dammed, and circulation in that part become entirely suspended.

Many species reproduce also by spores. Not only are such species enabled to retain their powers of reproduction, and, there-

fore, of disease distribution, for very prolonged periods, but they are much better enabled to resist adverse conditions.

The production of poisons by these plants is most easily demonstrated. It has already been shown that if the germs taken directly from the body of one suffering from a given disease be introduced to the body of another, the disease may be communicated to him; also that the germs can be propagated in some extraneous medium, as bouillon, for an indefinite period, and then be similarly used to inoculate another with their disease. In both these cases, the person to whom the disease is communicated can become the source for another inoculation, and so on; showing the successive reproduction and development of the plants in the bodies of the different persons. If, now, a portion of the liquid containing these germs be heated to a temperature known to be fatal to the latter, this power for the continued transmission of the disease is lost, as is clearly proven by inoculating an animal with the substance, and then failing to secure any further transmission of the disease from the substance of its body. No *living germs*, therefore, were conveyed to the animal in the inoculated substance. Yet, under these circumstances, we find that it will exhibit the subjective symptoms of the disease, so severely sometimes as to promptly cause its death. From this observation there is but one rational conclusion: namely, that the germs while growing in the liquid, gave out to it their produced poison, which poison, injected in solution into the animal's body, poisoned it, just as it would have done had it been produced within that animal's body by germs existing there. So strong, it is said, will this poison solution sometimes become, where diphtheria germs are cultivated, that a single drop of it will kill a large and healthy horse.

The extent to which the poison is produced under different conditions, or the "virulence" of the germs, is extremely variable. This variation is manifest in different epidemics and in different cases of the same epidemic.

Two quite distinct methods exist for the production of the poisons. One is the same as that followed by ordinary poisonous plants, like the toad-stool or the aconite, belladonna or strychnine plants. In each of these, the poison results as a waste-product from the nutritive process going on within the plant-body, so that the substance of the poison has previously belonged to the substance of the plant-body. While this poison can be of service to the

plant as a protection, yet it cannot be allowed to accumulate indefinitely. The acornite plant gets rid of it by storage in its tuber, which then decays in the soil after producing the plant of the following year. The belladonna plant stores most of it in the leaves, which fall and decay, while the strychnine plant does the same with its seeds. In the case of bacterial plants growing within our bodies, however, these poisons can be discarded from the plant-bodies only by excretion directly into our blood, and this, we have already seen, is proved by observed effects.

The other method of poison-production is that by which the bacteria tear apart the organic substances of the tissues or fluids which surround them, extracting the very small portion which they can use, and leaving the residue, or part of it, in the form of a poisonous body. So far as the result is concerned, this method does not differ from the other, though it explains the extremely destructive nature of these organisms in disease.

Bearing in mind the facts and conditions here discussed in relation to the development, reproduction, and poison-production of disease-producing bacteria, we are prepared to understand our methods of contending against them. Some of the deductions are sufficiently plain, while others are most occult. It is of prime importance to know the methods by which the different germs are ordinarily introduced into the system. Some, as those of typhoid and cholera, are practically incapable of introduction except by the medium of the mouth. This does not mean at all that they must be present in our food or drink, as it is perfectly easy, and indeed common, for children, after handling their shoes or other polluted objects, to place the fingers in the mouth. Some, like the dreadful anthrax, are practically unable to inoculate us by the bodies of their germs except by direct contact, though it is possible for their spores to gain entrance through the lungs, by inhalation. Those of pneumonia and influenza must get into the air passages, in most cases, presumably, by inhalation. Diphtheria germs can grow readily in the eye and upon abraded parts of the body-surface, where contact is easy. Tetanus must enter the system by a bruise or incised surface. Tubercular germs can be lodged by inhalation, but, in spite of a tendency to become destroyed by the action of the stomach juices, they very frequently find entrance in our food and drink.

Our first and simplest method of defense against these diseases is manifestly the avoidance of infection and contagion. A perfect accomplishment of this result is well-nigh impossible, but since the outcome of an attack depends largely upon the number of germs making it, careful protection is at all times to be recommended. Successful protection involves special methods in the case of each germ, as their habits and offensive and defensive powers differ among themselves. Some require oxygen, others are destroyed by it, while others are similarly sensitive to sunlight, and again certain temperatures are fatal to certain species.

Closely connected with this subject, and constituting one of the most important departments of hygiene, is that of methods of disinfection or sterilization, processes by which all germs and spores capable of producing inoculation are destroyed in or upon objects which must be handled or consumed. The details of all these processes are discussed in simple manner in many works, where they should be sought by everyone interested in the welfare of the community, as well as in personal safety. Cold, even so low a temperature as 300° below zero, does little more than temporarily check their activity, while a degree of heat, readily secured by ordinary methods, and definitely fixed for each species, is fatal.

By far the most important precaution in our power is the preservation of good general health and a high state of vitality. The foreign germs are never left by our body-cells to make an uncontested invasion. The battles between our cells and the foreigners have been actually photographed, showing defeat now upon one side, then upon the other. Manifestly, increased vitality means increased safety, and of more importance to most of us, increased vitality and higher powers of resistance for our posterity.

Assuming that all these precautions fail, and that we are either stricken by disease or ready to become so if exposed, what shall we do to avoid infection, or if infected, to produce a cure? Success in answering this question has been only partially attained, yet this measure of success represents, perhaps, the most remarkable of all achievements in applied science.

Up to the present, we are practically without mineral or vegetable drugs capable of destroying these disease-producing plants within the body. Many substances are fatal to them, but only when concen-

trated to a degree dangerous to our own tissues.

This problem, however, too difficult for the chemist or the medical botanist, is solved by natural forces working within us. The existence of such a power is proven by the fact that we recover from these diseases, although we were unable to resist them at first, when we were stronger. It is further proved by our immunity against another attack, at least for a long period, after recovery. These well-known facts are understood when we learn that our own body-cells possess the power, under the stimulus of the germ's presence and of its poison, to manufacture and add to the blood substances antidotal to the germ poison, or fatal to the germ itself, or both. To these substances, because we call the germ poisons toxins, the term *antitoxins* has been applied. The gradual change thus effected in the composition of the blood is indicated by the gradual disappearance of the germs from the system as the disease progresses. It is also seen in the effects of mixing some of a convalescent's blood with a solution containing living and healthy germs, which are at once killed. Again, it is seen in the effects upon the disease of introducing to the body of a patient blood taken from one who has recovered, when there is more or less of an immediate tendency to counteract the poison of the disease. Or, if the individual has not yet contracted the disease, he can be prevented from doing so upon inoculation of the poisonous germs, if this blood from a convalescent be at the same time introduced. We, therefore, say that the convalescent has imparted to his body-fluid antitoxin properties, and that by the injection of this fluid a similar immunity can be conferred upon another.

It being manifestly impracticable to secure a sufficient quantity of such immunizing fluid from the bodies of convalescent human beings, recourse has been had to the lower animals, the horse being chiefly employed. The methods, now that they have been successfully worked out, appear simple enough. We dare not inoculate the animal with the disease germs, lest the disease thus imparted to him become uncontrollable; but we can inject into his blood the poison imparted by the living germs to a solution in which they have grown, but in which they have been destroyed or from which they have been filtered out. Only a very small amount can be safely introduced at first, but as the system of the animal manufactures and stores its antidotal quantity of the antitoxin, larger amounts of the poison are introduced, until sufficient to

have killed many untreated horses can be safely injected at one time. At length, the animal becomes proof against any ordinary amount of the poison. His blood is now drawn and its watery portion separated to be sold as commercial antitoxin. It is, in fact, a mere solution of the antitoxic substance, and its strength can be readily fixed by testing its power to counteract solutions of toxin of known strength.

Although diphtheria is the disease to which attention has been chiefly directed, its average mortality having been reduced more than 50 per cent. by this treatment, moderate success has also been attained in lockjaw and some other diseases.

Prevention against smallpox illustrates quite a different principle in defense: namely, that of attenuation. This method depends upon the known facts that certain types of disease are milder than others, and that this mildness can be artificially produced by pursuing certain methods. Under the application of these methods a mild form of the disease is created, and this disease is then imparted to those whom it is desired to immunize. Under this stimulus, their systems manufacture the required antitoxin, which at once becomes effective in protecting them against a new infection. By this method smallpox, once the most dreaded of diseases, may now be almost called unusual, considering its rarity among our vast populations.

ICHTHYOL IN OPHTHALMOLOGY

Prof. H. Pagenstecher,¹ of Wiesbaden, has employed ichthyol in disorders of the eye with very gratifying results. Two epidemics of eczema first suggested the remedy. The eczema, of the impetiginous and malignant variety, attacked neglected children and led to affections of the conjunctiva and the cornea. The eczematous areas were first cleansed and then covered with pure ichthyol. The local irritation is slight and dressing therefore unnecessary. The removal of crusts is, on the other hand, very important, prior to applying the ichthyol. Crusts of the scalp are best softened byunctions of white mercurial ointment, and then removed with ether.

In a case of painful herpes zoster ophthalmicus, ichthyol gave brilliant results. The same may be said of the drug used as an eye-dressing, with the exception of certain fresh injuries. This dressing is particularly valuable after operations for cataract. Ichthyol is applied to the eye directly by means of a glass rod, the patient holding the lids half-closed.

¹ *Jahresb. d. Augenhelanstalt, Wiesbaden, 1900.*

Progress in Materia Medica and Therapeutics

TREATMENT OF RINGWORM OF THE SCALP

Dr. Henry W. Stelwagon¹ has an interesting article on the treatment of ringworm of the scalp in institutions. While cases in private practice, among properly cared-for children, usually recover soon under appropriate treatment, it is different in hospital practice, with its weak and impoverished patients. Here the disease is among the most rebellious and persistent. The variety due to the small-spored fungus seems to be more refractory than the one caused by the large-spored fungus.

In either case, the treatment is the same, and, as a rule, strong remedies must be employed in combating the disease in institutions. The author's personal experience has taught him to rely on sulphur, naphthol, iodine, chrysarobin, and croton oil, the first two being most valuable for cases involving a greater part of the scalp, while chrysarobin and iodine are indicated in circumscribed patches, and croton oil comes after the other remedies have persistently failed.

The hair of the scalp must be clipped very short, and in obstinate cases even shaved every five to six days. To prevent the disease from spreading over the scalp and to other children, the head is to be washed daily or every other day with warm water and medicated green soap:

| | | |
|----------------------|--------|-------|
| Precipitated Sulphur |1 | dr. |
| Naphthol | ..... | ½ dr. |
| Green Soap |1 | oz. |

As to remedial applications, the following ointment is valuable:

| | | |
|----------------------|---------------|------|
| Precipitated Sulphur |2 | dr. |
| Naphthol |20 to 40 | grn. |
| Petrolatum |1 | oz. |

In young children with recent patches iodine is very efficient:

| | | |
|---------------------|-------------|-------|
| Red Mercuric Iodide |1 to 3 | grn. |
| Tincture Iodine | ..... | 1 oz. |

Paint on twice daily, two or three coatings at a time. Then use above salve.

Chrysarobin is the best remedy in hospital cases:

| | |
|-------------|-----------------|
| Chrysarobin |sufficient |
| Chloroform |sufficient |

Make a saturated solution.

The affected areas are painted over till well coated with a film of chrysarobin, the chloroform rapidly evaporating. Over this is then painted three or four layers of good collodion, which is reapplied in eight to ten hours. No further application is necessary until the film begins to crack or break, which it does in two to five days. It is then pulled

off, and any active irritation beneath treated with a mild ointment. Then again the chrysarobin and collodion are resumed, till a cure is obtained.

Occasionally, all these means will fail, and in such cases croton oil is indicated. It must, however, be used with extreme caution, and never in very young children. At first the oil is used diluted with 2 to 3 parts of almond oil, and if this fails to produce an active inflammation (this is the effect desired), stronger applications may be resorted to. In most cases pure oil is necessary, applied two to three times daily, for two to six days. The inflammation is then soothed with a boric-acid salve. Only one large patch should be treated at a time, or not more than two small ones. As soon as the inflammation of one area has subsided, a new one may be attacked.

REMARKABLE IDIOSYNCRASY AGAINST ARSENIC

Dr. Katchkatchev¹ publishes an interesting observation, which shows again how cautious one must proceed in administering arsenical preparations. A student suffering from malaria had begun to take Fowler's solution, commencing with 2 drops at a dose. Three hours after the first dose he presented all the classical symptoms of acute poisoning by arsenic: nausea, vomiting, diarrhea, tenesmus, enteralgia, spasmodic cough, and paresis of the extremities. All these disturbances passed away by the following morning. Not suspecting the true source of trouble, the patient took another dose of 3 drops of Fowler's solution, and shortly after the same train of symptoms again set in, with such violence that antidotal measures had to be resorted to.

A NEW METHOD OF TREATING WOUNDS

Drs. Anché and Triboudeau² recommend a combination of potassium permanganate and hydrogen peroxide in the treatment of wounds. The salt acts by giving off oxygen to the tissues and leaving manganese dioxide on the wound. Hydrogen peroxide also liberates oxygen when brought in contact with certain, but not all, tissues. After a wound has been treated with a solution of potassium permanganate, however, it is able to liberate oxygen from hydrogen peroxide, owing to the impreg-

¹ *Amer. Med.*, Nov. 23, 1901.

¹ *Bull. gén de Thérap.*, CXLII, No. 9.

² *Wiener klin. Woch.*, XIV, No. 48.

nation of the tissues with manganese dioxide. On this fact is based the new method of treating wounds. After cleansing the wound and removing all fatty substances, a dressing of 1- to 10-per-cent. potassium permanganate solution, followed by hydrogen peroxide, is applied. Abundant foaming takes place, and the wound is immediately covered with a dry dressing.

The authors have used the method in various wounds, in chancroid, stomatitis, etc., with alleged success. They caution against its employment in eye-diseases.

ICHTHARGAN IN CHRONIC GONORRHEA

Dr. Leo Leistikow,¹ having obtained excellent results in acute gonorrhea with ichthargan, decided to try the remedy in chronic gonorrhea, and now reports the results of an experience of more than two years' duration. In all, 108 cases were treated in which the disease was of no less than three months' duration. The following groups may be differentiated. The cases reported are merely typical of the other cases.

I. Chronic anterior mucous urethritis.—Case I.—Duration, three months; interior urethra infiltrated; morning drop of pus full of gonococci. Treatment: introduction of an elastic catheter as far as the bulbous, and slow irrigation with a $\frac{3}{10}$ -per cent. solution ichthargan by means of a 3-oz. syringe every other day. No gonococci after the eighth injection, and complete cure after twenty-four injections. In another similar case a $\frac{1}{2}$ -per-cent. solution was employed, as the weaker one failed to clear up the secretion in seven days.

Case II.—Duration, four months; morning drop sero-purulent; posterior urethra normal. Treatment as in Case I, and cure after 20 injections.

Case III.—Six months' duration; no gonococci in secretion, a few in the shreds, not disappearing after irrigation with $\frac{1}{10}$ - to $\frac{3}{10}$ -per-cent. ichthargan. By means of a catheter and half-dram syringe, $\frac{1}{2}$ - to 1-per-cent. solutions were applied to the bulbous, and speedy cure resulted.

Numerous other cases showed similar characteristics and equally favorable results.

2. Chronic anterior urethritis with glandular infiltrations.—Case I.—Duration, six months; the endoscope showed a mucous anterior urethritis, and hypertrophic inflammation of the bulbous and pendulous parts. Secretion muco-purulent, containing gonococci. Examination with sound revealed painful areas in the anterior urethra. Treatment: catheter irrigations with $\frac{3}{10}$ -per-cent. ichthargan every second day for five weeks. Then daily applications of 2-per-cent. ichthargan (with Ultzmann's applicator) to the glandular infiltrations for three weeks more. Complete cure.

Case II.—Glandular hypertrophic area in the navicular fossa, of one and a half year's duration. Cure with 5-per-cent. ichthargan, after a treatment of four months.

3. Chronic anterior follicular urethritis.—Case

I.—Fourteen months old; follicular swelling and infiltration in anterior urethra; numerous gonococci in purulent secretion. Treatment: irrigation by means of catheter with $\frac{3}{10}$ -per-cent. ichthargan, every second day, followed by dilatations of the urethra with Kellmann's dilator, three dilatations weekly, followed immediately by an application of a 5-per-cent. ichthargan solution. Cure in three months.

Case II.—Two years old; two considerable follicular swellings in the bulbous, very painful on exploration with the sound. No gonococci in the scanty secretion. Treatment as in Case I, and cure in four months.

Case III.—Duration three years; morning drop; gonococci, follicular infiltration in navicular fossa. Treatment with dilatation and ichthargan applications. No success. Thereupon scarification of the infiltration (under cocaine anesthesia) by means of Kellmann's scarifier, followed by applying ichthargan in 6-per-cent. strength. The scarification was repeated once, while the ichthargan was applied three times weekly for two months, with complete cure as the result.

Numerous cases resembling Cases II and III are recorded.

4. Chronic anterior and posterior urethritis.—Case I.—Duration, eight months; soft infiltrations in bulbous and pedulous portion; mucous catarrh of membranes and prostatic parts; gonococci; bladder and prostate normal. Treatment: injections with Ultzmann's catheter, connected with a syringe holding $2\frac{1}{2}$ dr. A solution of $\frac{3}{4}$ -per-cent. strength ichthargan used every second day. Cure of posterior urethritis in six weeks. The soft infiltrations required 5-per-cent. ichthargan for their complete removal.

Other cases similar in character, treatment, and results:

5. Chronic urethritis with prostatitis.—Case I.—Duration, twenty-one months; prostaticorrhea and swelling of caput gallinaginis. Sexual neurosthenia; prostate gland infiltrated; gonococci. Treatment: irrigations with $\frac{1}{2}$ -per-cent. ichthargan, three times weekly for three weeks; then applications of 3-per-cent. ichthargan to posterior urethra. Rapid improvement. For the prostatitis, ichthargan ointment, applied according to Unna, on sounds:

| | |
|--------------------|------------------|
| Ichthargan..... | 10 grs. |
| Yellow Wax..... | $\frac{1}{2}$ dr |
| Cacao Butter | to make 5 dr |

A sound is heated over a flame and passed to and fro over the above ointment. The sound, covered with the salve, is then dipped into cold water, which causes the salve to congeal. The sound is then inserted and left in place for ten minutes. Three such applications weekly resulted in cure at the end of four weeks.

Another similar case was cured by daily massage of the prostate for three weeks with a 3-per-cent. ichthargan ointment, and a third analogous case by means of rectal injections with 1-per-cent. ichthargan, $3\frac{1}{2}$ oz. at a time, given three times daily for four weeks, in conjunction with salve applications as in Case I.

6. Chronic cystitis.—Irrigation with $\frac{1}{10}$ - to $\frac{3}{10}$ -per-cent. solutions of ichthargan proved highly useful in this affection. Three and one-half ounces were thrown in every other day, and from two to six weeks generally sufficed for a cure.

The author offers these conclusions:

1.—Ichthargan promptly kills gonococci

¹ *Monatsh. f. prakt. Dermatol.*, XXXIII, No. 7.

2.—It has a strong antiphlogistic action.

3.—The strength and mode of use are: in chronic anterior mucous urethritis, in strengths of $\frac{1}{10}$ - to $\frac{3}{10}$ -per-cent., by means of a soft catheter; in chronic anterior glandular urethritis as before, but still better, applied with Ultzmann's syringe in 3- to 5-per-cent. solutions; in the chronic anterior follicular form, application combined with dilatation or scarification; in chronic anterior and posterior form, by injections with catheter of solutions of $\frac{3}{40}$ - to $\frac{3}{10}$ -per-cent., or 1- to 5-per-cent. applications; for prostatic complication, 5-per-cent. ointment, massage with 3-per-cent. ointment, or 1-per-cent. solution by enema; for chronic cystitis, irrigations with $\frac{1}{10}$ - to $\frac{1}{5}$ -per-cent. solutions.

BLACK CUPRIC OXIDE AS AN ANTHELMINTIC

Dr. Dörr¹ speaks favorably of black cupric oxide as an anthelmintic. As compared with our standard remedy, the oleoresin of male-fern, cupric oxide has the great advantage of being innocuous, while at the same time perfectly reliable.

The dose is about 1 to 4 grn. four times daily. The following formula will illustrate its employment:

Black Cupric Oxide.....48 grn.
Calc. Carbonate16 grn.
Kaolin (finely powdered).....1½ dr.
Glycerin...enough to make 120 pills

Two pills four times daily.

Avoid sour food. Children will take 2 pills only twice daily, and require 50 to 60 pills. A few days after pills have all been taken, give a dose of castor oil. The above is Hager's formula. For adults, the author prescribes the same combination but in double the doses, and the results have always been satisfactory. It is also well to add enough aloes to the above formula to cause a mild diarrhea. The author calls attention to the fact, already pointed out by Hager and Rademacher, that under this treatment the worm comes away more or less decomposed and piecemeal.

CARBOLIC ACID IN THE TREATMENT OF PILES

It is claimed by many physicians that the injection method of treating hemorrhoids has not as yet received the attention it deserves. Dr. George W. Gay² considers the method as safe, but emphasizes from the start that it is in a majority of cases simply palliative, though to such a degree as to render any other operative measures unnecessary.

This little operation, which can be per-

formed in the physician's office, is not painful and, therefore, requires neither anesthetics nor opiates. The treatment does not interfere with the patient's occupation and though a radical cure is rare, the relief is marked and may last indefinitely.

It is only internal piles that are fit to be treated in this manner, says the author. This is an important limitation of the method. External piles can only be made worse by the injections. The strength of the solutions of carbolic acid should not exceed 10 per cent. The writer uses: Carbolic acid (95 per cent.) 1 part; glycerin and water, of each 1 part. This preparation he found efficient and not attended by any unfavorable symptoms. [The author says that the strength of the solution of carbolic acid should not exceed 10 per cent., while the preparation that he recommends immediately after contains 31 $\frac{2}{3}$ per cent. of carbolic acid. We surmise that this may be a typographical error and formula should read: glycerin and water, of each, 4 parts.—EDITOR.]

The amount of solution injected will depend on the size of the tumor. From 1 to 2 min. is generally sufficient, and this quantity has never produced intoxication. More than two piles should not be treated at one sitting.

The author summarizes the important details as follows: (1) Inject only *internal* piles; (2) use a solution of carbolic acid of not over 10-per-cent. strength; (3) do not repeat the operation before a week's time; (4) inject only 1 to 2 min. into each tumor; (5) inject not more than two piles at one sitting; (6) promise only relief to the patient, and not a radical or permanent cure of the piles.

THE TREATMENT OF PNEUMONIA

Dr. E. D. Newell¹ reports a series of thirty consecutive cases of croupous pneumonia with twenty-nine recoveries. Fifteen cases had been previously treated and gave a mortality of 33 $\frac{1}{3}$ per cent.; the next thirty cases received different medical treatment and showed a death-rate of only 3 $\frac{1}{3}$ per cent., or 1 in 30.

The method in the first series was as follows: First day, 5 to 8 grn. of calomel, followed by a saline, $\frac{1}{4}$ grn. of morphine subcutaneously, mustard jacket over consolidated area. If pulse was below 120, ammonium carbonate, 5 to 10 grn. every four hours, was given with the usual cough mixtures. For a pulse of 120 or more, digitalis was administered, 10 min. of the

¹ *Therapie der Gegenw.*, 1901, No. 11.

² *Boston Med. and Surg. Jour.*, CXLV, No. 23.

¹ *Georgia Jour. of Med. and Surg.*, IX, No. 5.

tincture every four hours, day and night, increased to 15 min. if necessary.

The second series was treated similarly, but no digitalis and no morphine was given. Strychnine, $\frac{1}{40}$ to $\frac{1}{20}$ grn., was given every three to four hours, according to the requirement of the case. The diet was fluid, and whisky was used in severe cases.

Two cases were put on a special plan of medication. The first patient, a robust young negro, received 5 grn. of salol every four hours in addition to the usual symptomatic remedies, with the result that the fever left him and the disease seemed to be aborted the very next day. A relapse followed shortly after, but was also checked by the same treatment.

The second patient was given sodium salicylate instead of salol, 1 dr. every six hours. Within thirty-six hours from the time of his chill all severe symptoms had passed, and in sixty hours the man was well. However, the salicylate caused very profuse perspiration, tinnitus, and general weakness as untoward by-effects, and the author refrained from giving it further trial as an abortive remedy in pneumonia.

PHENOL IN TETANUS

Dr. Sbrana¹ treats tetanus with Bacelli's subcutaneous injections of 2 to 3-per-cent. solutions of phenol. Five out of ten cases thus treated recovered. He advises to inject near the site of infection, and repeat the injections every four to five hours. Warm baths and enemata of chloral and bromides are also used. Before injecting phenol it is best to remove the source of infection if possible, or at least disinfect the wound or cauterize it. No toxic effects were recorded after this method.

CREOSOTE CARBONATE IN PNEUMONIA

Creosote and its derivatives have of late received considerable attention in the treatment of pneumonia. Dr. Leonard Weber² reports nine cases in which the administration of creosote carbonate has been followed by remarkably uniform and good results. The remedy was given in capsules after the following formula:

Creosote Carbonate..... $\frac{1}{2}$ oz.
Medicinal Soap... .. 1 dr.

Make into 60 capsules. Two every three hours, ten to twelve daily.

After about 1 dr. of the drug had been consumed, the temperature was observed to fall to normal, and the patient felt better generally. If the remedy was now discontinued, the temperature again rose and the other symptoms grew worse. But if rem-

edy was resumed and continued at the rate of 50 to 60 grn. daily for three to six days, the temperature went down and remained normal, and the affected lung began to clear up. Evidently, then, much the same thing takes place after creosote-carbonate administration as after a natural crisis in pneumonia—that is, the lung remains in a state of hepatization while the clinical symptoms of the disease subside or disappear. This remarkable influence of the drug is, in all probability, not due to the antipyretic or bactericidal qualities of creosote. It may reasonably be contended that the effect is the result of the antidotal action on the pneumonic toxins.

None of the author's patients received any other remedy than creosote carbonate, with the exception of a small dose of Dover's powder for the pain and restlessness.

DORMIOL IN THE TREATMENT OF THE INSANE

Dr. Oscar Holz¹ has written a dissertation on the action of dormiol employed as a hypnotic. He used it in thirty-four cases, including various forms of mental disease. The drug was administered in aqueous solution, without any flavoring, and was always readily taken. In doses of 30 min. to 2 dr. of the 50-per-cent. solution, dormiol produced (in 85 per cent. of the cases) sleep of five to eight hours' duration. The author emphasizes the harmless nature of dormiol, which leaves temperature, pulse, and respiration unaffected. No unpleasant after-effects were recorded, as is frequently the case with other hypnotics, especially sulfonyl. One patient, who always suffered with headache after taking chloral hydrate, had no complaints to make about dormiol. Neither could habituation to the remedy or a cumulative action be noticed.

Dormiol was employed by the author chiefly in cases of delirium tremens, and here it was shown that a single dose of 1 dr. to $1\frac{1}{2}$ dr. of the 50-per-cent. solution (well diluted) sufficed in 50 per cent. of the cases to produce, in fifteen minutes to one hour, a refreshing sleep of five to eight hours' duration. In 30 per cent. of the cases a second dose was required, while 20 per cent. were unaffected by the drug. Besides the hypnotic action, dormiol exercises a considerable sedative effect on the affected nervous system of the insane. The dosage will usually have to keep pace with the degree of excitement presented by the patient. In concluding, the author accords dormiol a position at least equal in rank to our older hypnotics and recommends further investigation and trial.

¹ *Gazette des Hôpitaux*, 1901.

² *Med. Record*, LX, No. 18.

¹ Inaugural Dissert., Königsberg, 1899.

CARBON DISULPHIDE IN TUBERCULOSIS

The antiparasitic properties of carbon disulphide have been utilized by Dr. Cornilias¹ in the treatment of tuberculosis. For surgical manifestations of the disease, as arthritis, osteitis, etc., he employs a mixture of $\frac{1}{2}$ dr. of camphor, $3\frac{1}{2}$ oz. of carbon disulphide, and 1 oz. of olive oil. This liquid is injected so as to refill the abscess-cavity. Besides, about 20 drops of carbon disulphide are given internally in some syrup, twice daily. The lesions heal promptly under this treatment.

In pulmonary tuberculosis the author has employed intra-tracheal injections of carbon disulphide with turpentine, combined with the internal administration of the syrup mentioned above. One part Venetian turpentine is mixed with two parts carbon disulphide, and combined with sterilized olive oil, so that $2\frac{1}{2}$ dr. of oil will contain 10 drops of disulphide. Every four days an injection of $2\frac{1}{2}$ to 5 dr. of the oil is given. A complete cure was obtained in some cases, while others were not influenced by this treatment, which, moreover, is not without its grave dangers.

THE TREATMENT OF CANCER

The treatment of cancer may be medical, surgical, or combined, states Dr. A. Benoit², and if begun early enough will result in many cases in a radical cure. In the following, only remedies and methods of recognized efficiency will be mentioned.

Medical Treatment.—There are definite indications for medical treatment. It is our only resort in cases of "inoperable" cancer, in certain circumscribed epitheliomata of the face, in multiple tumors, etc. Our medical armamentarium comprises physical measures, chemical agents, and serums.

Of physical measures, thermo-cauterization is employed almost exclusively in uterine cancer with extensive infiltration and hemorrhages. The X-ray has found application principally in slowly progressing epitheliomata of a superficial character. The use of X-rays provokes a dermatitis that gradually destroys the growth. The tubes employed should be tested, as they differ in power, and the rays should be brought to act on the surrounding healthy tissue as well as on the diseased. A cure may be obtained in several weeks.

Of chemical agents, once vaunted, only a few have survived to the present day. When employed, it is very important that they destroy all the diseased tissues. Feeble caustics, like silver nitrate and various

acids, are of no avail in the treatment of cancer. Only true escharotics are worthy of trial, and of these we have two: Zinc chloride and arsenic. Zinc chloride is used in the form of ointment or solution, preferably the first, of which one application will usually suffice. Arsenic is used as arsenous acid, alone or combined with other substances. Thus the acid may be mixed with an equal part of powdered gum-arabic, and water added to make a paste having the consistency of butter. A few crystals of cocaine may be added for anesthetic purposes. This paste is spread on muslin and applied to the diseased area, to be removed twelve to thirty-six hours later, guided by the sensation of burning. A cooling ointment constitutes the after-treatment. One application is sufficient. Comparative investigations have shown that arsenic has a distinct elective tendency for the cancerous tissues. Absolute alcohol is also used in the form of interstitial injections, and often efficiently checks the progress of the disease, especially in uterine cancer. Arsenic is valuable also as an internal remedy for cancer, and positive cures have been obtained by the administration of Asiatic pills and Fowler's solution. The total curative amount of arsenous acid was 16 grm. in one case; another completely cured patient was taking Fowler's solution for several weeks. Recently sodium cacodylate has found extensive application in cancer, used subcutaneously and internally.

Quinine has also been used by injection and internally as a remedy for cancer. The dose is 16 grm. of the sulphate daily, dropping it for two days each week while Fowler's solution is given. Some take this dose indefinitely. The appearance of intolerance on the part of the digestive tract is a signal for substituting the hypodermic administration of soluble salts.

Various inoculations and serums have been proposed in the treatment of cancer. Thus, pure cultures of streptococci (Coley's fluid) have been inoculated on patients, in the hope of obtaining effects similar to those of an attack of erysipelas in cancerous persons. The results have not justified the original hopes, and the method is fraught with danger for the weak and cachectic.

Furthermore, animals have been inoculated with cancerous secretions, and their serum utilized for curative purposes. Some improvement has followed, but the serum of animals not thus inoculated seems to exert the same influence. The amelioration is temporary at best, and the same may be said of various other serum preparations.

¹*La Sem. méd.*, XXI, No. 48.

²*Rev. de Thérap.*, LXVIII, No. 23.

Timely excision remains the most reliable method of dealing with cancerous growths. The removal must be thorough, including adjacent tissues and all the affected lymphatic glands, if a radical cure is to be looked for.

Early surgical interference is particularly indicated in cancer of the large viscera, the stomach and intestines. Here success must depend entirely on the early diagnosis.

There are, of course, forms and extensions of cancer which render a radical cure by operative interference impossible. In such cases a combination of medical and surgical measures may give considerable relief for quite some time.

In any case, it is wise after a presumably radical operation to resort to medical treatment with a view of possibly preventing a recurrence of the disease.

A REMEDY FOR BURNS

Dr. Wilson¹ recommends a mixture of castor oil with the white of egg for burns. It allays the pain more quickly and causes the wound to heal more rapidly than any other application. The eggs are broken and emptied into a bowl, and the castor oil gradually and slowly poured in while the eggs are beaten. Enough oil is to be added to make a thick creamy paste, which is applied to the burn with a feather. The applications are repeated often enough to prevent their becoming dry or sticky. It is best to abstain from any dressings, leaving the surface uncovered.

THERAPEUTICS OF OREXINE TANNATE

Dr. Jos. Kuck,² of Wiesbaden, speaks very highly of orexine tannate, introduced by Prof. Penzoldt about ten years ago. Orexine tannate is a yellowish powder, tasteless and odorless, insoluble in water, freely soluble in acids, and consequently in the gastric juice. No serious or permanent after-effects have ever been recorded, although the drug has been extensively employed.

In doses of 8 grn. orexine produces strong craving for food. All gastric functions are stimulated by the drug, especially the secretion of hydrochloric acid. All cases of diminished gastric secretion are therefore indications for treatment with orexine, but also loss of appetite from any cause, as well as conditions of emaciation and debility. Thus, orexine is useful in the convalescence of febrile diseases, in tuberculosis, scrofula and rickets, anemia and chlorosis, neurasthenia and hysteria, nervous dyspepsia, etc.

Of all stomachic remedies, orexine seems to be the best. Improved appetite, increase of bodily weight, and enrichment of the blood follow its use. Numerous authorities praise the drug, particularly in pediatric practice. Indigestible articles of food are tolerated much better if a little orexine is taken along.

The drug will occasionally relieve heartburn, cardialgic pain, and in one case on record it acted as a teniafuge. In surgical practice, orexine in doses of 5 to 6 grn. is recommended for vomiting after anesthesia. Its action in the uncontrollable vomiting of pregnancy is almost specific.

Contra-indications for orexine are gastric hyperacidity and gastric ulcer. It should also never be given with iron, as an inky compound will be formed. The doses are 3 to 12 grn., according to age, twice daily, one to two hours before meals, in water or broth. This medication may be continued for five days, then be interrupted for several days and again resumed. The drug probably acts by direct stimulation of the gastric cells.

FANGHI DI SCLAFANI—A REMEDY FOR ACNE

Twenty-five years ago Dr. Otto v. Fleischl¹ had his attention called to this remedy for acne rosacea, and he has since then had frequent occasions to employ it with excellent results. Fanghi di sclafani is a mineral substance of volcanic origin. It is a light-yellowish, fine powder, having a sour taste and a weak odor, and consisting chiefly of sulphur, with small quantities of iron, manganese, calcium, and other elements. Microscopical examination shows that the sulphur of the substance is in a very finely powdered condition. Compared with it *lac sulphuris* is a coarse powder, not to speak at all of the still coarser "flowers of sulphur."

The remedy is used as follows: A pinch of fanghi di sclafani is placed in a porcelain cup, a teaspoonful of water added, the powder rubbed up with the water, and this opaque mixture applied by means of the finger to the red areas of the skin. This application is made at bed-time; the water evaporates during the night and leaves a fine powder on the skin. The powder is washed off in the morning, and the skin dried without friction. The procedure is then repeated every evening as long as necessary. Too much of the powder should not be used: about 2 grn. to the teaspoonful of water. Treatment will last from

¹ *Med. Council*, Nov., 1901.

² *Domin. Med. Monthly*, Jan., 1902.

¹ *Wiener klin. Woch.*, XIV, No. 49

fourteen days to several months. Only milder forms of acne rosacea will yield to this treatment, and the author is inclined to attribute the action of the remedy to the finely powdered condition of its chief constituent, sulphur.

POTASSIUM PERMANGANATE IN MORPHINE POISONING

Dr. T. H. Marable¹ reports four cases of morphine poisoning, in which potassium permanganate was employed as an antidote.

Case I.—A young lady took four No. 2 capsules of morphine with suicidal intent. Two hours later the author found her unconscious, with contracted pupils that did not react to light; she was breathing eight times per minute, and had a thready pulse of 50 beats per minute. He administered $\frac{1}{10}$ grn. of apomorphine to her hypodermically, and followed with a similar injection of 4 grn. of potassium permanganate. Ten minutes later a second dose of $\frac{1}{10}$ grn. of apomorphine was given and produced free emesis. The patient was now taken from the bed and compelled to walk the floor. Every quarter to half hour a hypod. injection of potassium permanganate was repeated, and this treatment was continued for about two hours, when the girl was pronounced out of danger.

Case II.—The patient had swallowed twenty-one $\frac{1}{4}$ -grn. tablets of morphine. An hour and a half afterwards, when the author saw him, the man seemed to be intoxicated. His face was red and suffused, the pupils not much contracted. An injection of apomorphine, $\frac{1}{10}$ grn., was administered and repeated in ten minutes, with no effect. Frequent injections of a 10-per-cent. solution [the strongest solution of potassium permanganate that can be made is about $5\frac{1}{2}$ per cent.—Ed.] of potassium permanganate also failed to do any good, the man dying. In this case the fact that the man had taken a very large quantity of whiskey and was quite drunk before swallowing the morphine, vitiates any conclusions as to the antidotal efficiency or reliability of potassium permanganate.

Case III.—A young man, while in a drunken state took 7 grn. of morphine in a glass of beer. He walked a mile from the saloon to his home after taking the drug. About an hour and a half later the author found him in a stupor, with contracted pupils, a pulse of 60, and twelve respirations per minute. Two injections of apomorphine, $\frac{1}{10}$ grn. each, given at an interval of fifteen minutes, produced copious emesis. Some time elapsed before potassium permanganate could be procured, the patient having in the meantime become so deeply unconscious as to make all attempts at arousing him futile. Five grains of the antidote in solution were poured into him, but he immediately vomited the dose. An injection containing 2 grn. of the salt was now given in the scapular region and repeated. Half an hour afterward the man could be aroused. The injections were repeated every ten minutes for six times, and the patient kept awake for three hours, when he was out of danger. With the exception of a very sore back, due to the injections, his recovery was uneventful.

Case IV.—A young woman, while intoxicated, took 7 grn. of morphine. When seen an hour and

a half later she could be partially aroused. Two injections of apomorphine, $\frac{1}{10}$ grn. each, resulted in free emesis. Hypodermic injections of potassium permanganate into arm and leg followed, and several hours afterward she had rallied far enough to be allowed a short sleep.

The author observed in these cases that injections in the scapular region produced less pain and soreness, but were not so effective as those given into the arm or thigh.

The point to be noted is the hypodermic employment of potassium permanganate, its efficiency when given by the mouth being well established. Dr. H. C. Wood's conclusions as to the hypodermic use of the drug ("Therapeutics," 1898) do not appeal to the author for the following reasons: (1) Experiments on lower animals are not binding on account of their extreme susceptibility to morphine; (2) the lethal dose of morphine in some lower animals is so enormous, that the necessary antidotal amount of potassium permanganate must of itself prove fatal; (3) the action of the latter is physiological, not chemical, since there is no proof that it acts chemically, unless brought in direct contact in the stomach, while there is evidence that it increases the number of respirations and influences the circulation, as shown by the dilatation of the vessels of the ears and the effect on the blood.

IODINE INTERNALLY AND SUBCUTANEOUSLY IN TYPHOID FEVER

Dr. A. Cavazzani and P. Lucchesini¹ have obtained good results from iodine in typhoid fever. They use the following solution:

| | |
|-----------------------|----------|
| Iodine | 7 grn. |
| Potassium Iodide..... | 70 grn. |
| Distilled Water. | 100 min. |

Twenty drops of this solution are dropped in about 12 oz. of sugar-water or milk, and this mixture is consumed during the day. For children only 3 to 4 drops of the iodine solution are used. In severe cases 8 to 16 drops of the following solution are injected subcutaneously once or twice daily:

| | |
|-----------------------|----------|
| Iodine | 1 grn. |
| Potassium Iodide..... | 10 grn. |
| Guaiaicol | 20 grn. |
| Glycerin..... | 100 grn. |

On account of the anesthetic action of the guaiacol these injections are but slightly, if at all, painful. According to the authors, this treatment gives better results than any other: complications are less frequent, the temperature is rapidly reduced, and the convalescence period is considerably shorter than is usually the case.

¹ *Med. Age*, XIX, No. 20.

¹ *Morgagni*, 1901.

THE TREATMENT OF METRITIS

Dr. John Campbell¹ emphasizes the importance of prophylaxis against inflammations of the uterus. Surgical cleanliness of instruments, and proper disinfection of hands, as well as of the vaginal and uterine canals, are all imperatively necessary. A cardinal principle of uterine surgery demands a thorough cleaning out of the aborting uterus, in case the hand or instrument has once entered the cavity. The author condemns the use of the finger for this purpose, and is decidedly in favor of the curette, recommending the sharp flushing instrument.

During menstruation, girls and women should not take too active exercise, avoiding movements of the abdomen. A good absorbent pad should be used while the flow continues. As to treatment of the established disease, several measures of a general character must be mentioned as undoubtedly useful. Such are immobilization of the uterus by an abdominal belt; the avoidance of strain; of sexual intercourse; of constipation; the use of tonics; and the use of natural medicinal waters—the ferruginous in anemic, the alkaline in dyspeptic, the indifferent in neurotic patients.

Douches are valuable, but should be used more energetically than they generally are. Not less than 2 quarts is the proper quantity for one douche, and it should occupy at least twenty minutes. The temperature should be raised gradually from 100° to 120° F. They should be given at least twice daily in the dorsal position and their use continued for months. Hip-baths are also serviceable, especially if a bath speculum is employed at the same time.

The importance of the tampon has been overestimated, says the author. The solution they are soaked in may be glycerin, ichthyol, etc. They should be inserted daily, if good results are to be obtained. Local bleeding, produced by puncturing the cervix, and followed by warm douching, is sometimes beneficial, and superior to leeching.

More important than all these is intra-uterine medication with antiseptics and caustics. Thus, tamponing the uterus with iodoform gauze is especially recommended in gonorrheal metritis. More effective than antiseptics is the application of caustics, like zinc chloride in solution, carbolic acid, tincture of iodine, etc. For applications by the probe, solid carbolic acid, liquefied by heat and allowed to crystallize on the dressed probe, is the best agent. Injection is the

best way of applying the caustics. This is performed with Braun's syringe, and is free from danger, provided the cervix is sufficiently dilated, and the quantity introduced is proportionate to the size of the cavity.

But of all methods, curetting is admittedly the best. However, it is an error to rely on the curette only. The scraping is really the first step in a course of treatment. The treatment, like the disease, should be somewhat chronic. The author prefers the sharp to the blunt curette for the operation, which may be performed immediately after a period if easy dilatation is desired, or best a week before the period in cases of sterility. In nervous and sensitive women an anesthetic may be employed, or a 10-per-cent. solution of cocaine applied to the cervix and the cervical canal for ten or fifteen minutes. Preliminary vaginal douches, using sublimate 1:2000, are essential to safety of the operation. Though the danger of the curette is very slight, yet perforation occurs rather frequently. When further manipulation is avoided the accident is free from consequences. Hemorrhage seldom follows the operation in metritis, and is more likely to follow an imperfect curetting.

Of recent methods, the yeast-treatment of gonorrheal metritis deserves mention. From 10 to 20 Cc. of fresh beer-yeast, mixed with a little beer, is injected every day or every few days into the vaginal fornix, after first cleansing and drying the vagina. A tampon is then inserted.

Chronic painful metritis is rather difficult to manage. Scarification and puncture, followed by the use of glycerin and iodine or glycerin and ichthyol tampons, are beneficial to some extent. Hot douches are particularly useful in this variety.

AIROL IN SURGERY

Among the numerous substitutes for iodoform, only a few have survived the first stage of extravagant praise. Airol is one of these few, and not only has it held its original ground, but has constantly gained new fields of application. Dr. C. Schaerger² discusses the experimental basis of the use of airol in the treatment of wounds. In the first place, it is necessary to test the antiseptic properties of the drug outside the animal organism, to make sure that its use will not transfer living microbes to the wound. In the case of airol this problem has been definitely solved by means of numerous experiments. Comparative tests have even shown airol to be superior to iodoform and dermatol, as it effectually hindered

¹ *Brit. Med. Jour.*, No. 2127.

² *Klin.-therap. Woch.*, VIII, No. 38.

the further growth of various bacilli on gelatin, while iodoform and gelatin failed to do so. It has been, moreover, noticed that airol exerts an antiseptic influence even at some distance, without coming in contact with the bacilli.

It is known that iodoform acts most efficiently when it is split up, thus liberating iodine, which is the chief active agent. Such a process takes place where decomposition is present in a wound as in suppuration. Experiments were made by the author to ascertain whether airol possesses a similar germicidal power, and the result demonstrated this beyond doubt. When airol is brought in contact with wound secretion it is changed into a red powder, due to the liberation of free iodine, which latter is to be credited with the antiseptic action of airol.

The action of airol in the human body was investigated by Dr. Honsell on himself. He inflicted superficial wounds on his body by shaving off small areas of skin. Eight such wounds were made, and four covered with a mixture of staphylococcus pus, pure culture of staphylococci and airol paste; the other four were covered with a similar mixture, containing kaolin-paste instead of airol. Five days later the first four wounds showed no reaction, while the second series was inflamed and suppurating. Similar tests were made by the same author, who was self-sacrificing enough to inflict sixty wounds on himself in the course of these experiments. It has further been observed that suppurating leg-ulcers show a marked decrease of bacilli under treatment with airol (in powder or ointment).

The author draws the following conclusions from the experiments made by himself and others: (1) airol exerts its antiseptic influence outside as well as inside of the animal and human system; (2) this antiseptic action is due to the iodine in the nascent state.

COCAINE IN MORPHINE POISONING

A case is reported by Dr. Albert C. Barnes,¹ in which cocaine was successfully employed as an antidote to morphine. The patient, a girl of seventeen, was working in a laboratory, molding finely powdered morphine sulphate into hypodermic tablets. About two hours after beginning the work she gradually became unconscious, and the author was able to diagnose poisoning by morphine. The stupor was profound, the respirations 6 to 8 per minute. Number of heart beats 8 to 16 per minute.

The usual restoratives such as coffee,

flagellation, etc., were employed before the writer's arrival, but with no results. The author did not employ atropine, bearing in mind the recent researches on the action of this drug, but had recourse to cocaine, its physiological action of stimulating the central nervous system being directly antagonistic to that of morphine.

Of cocaine hydrochlorate, $\frac{1}{2}$ grn. was given hypodermically, and repeated in half an hour. Ten minutes after the second injection the pulse and respiration gained in frequency, and signs of returning consciousness became evident. A third dose of $\frac{1}{4}$ grn. of cocaine brought about consciousness, and an increase of pulse and respiration up to 80 per minute. Symptoms of cocaine intoxication (delirium, convulsions) now developed and $\frac{1}{2}$ grn. of elaterium was given to promote the elimination of both poisons.

A second relapse of the stupor was successfully combated with coffee, forced movements, etc. The girl finally recovered, and the author is inclined to give the credit of her recovery to the cocaine. He cautions against excessive dosage of the "antidote," and considers $\frac{1}{2}$ grn. of cocaine hydrochlorate every half hour as safe.

SUBLAMIN

This is a trade-name of ethylene-diamine-mercury sulphate and appears in the market in the form of red-colored tablets containing 1 Gm. (15 grn.) each. It is recommended as a substitute for corrosive sublimate in hand disinfection; while corrosive sublimate makes the hands harsh and often causes eczema in a 1:1000 solution, this salt is claimed to be free from irritation even in a 2-per-cent. solution. It is to be used in 3:1000 strength (three tablets to a liter or quart of water).

THE TREATMENT OF HEMORRHOIDS

Dr. Henry M. Woolman¹ writes in favor of the injection treatment of hemorrhoids. By means of injecting carbolic acid into the piles a sure cure may be obtained without any risk or fear of consequences. All that is required is to adhere to certain rules laid down by experience, as: Never inject inflamed or irritated piles; never employ a speculum; inject the smaller piles first; handle the parts with great gentleness; apply vaselin to protect the parts from overflow of fluid; do not operate a second time until all soreness disappears.

The mode of procedure is to insert the needle at or near the apex of the pile, and inject slowly, drop by drop, until the tu-

¹ *Phila. Med. Jour.*, Dec. 21, 1901.

¹ *Med. Council*, Dec., 1901.

mor changes color. Then remove excess of fluid with glycerin or Monsel's solution on cotton held over the opening. If blood follows, not enough has been injected, and the procedure must be repeated immediately. As much as a dram may be used for one injection. Pain will be relieved by hot water. No sloughing, swelling, or abscess will follow this little operation.

The solutions used are of varying composition:

| | |
|-----------------------|---------|
| Carbolic Acid..... | 1 oz. |
| Zinc Chloride..... | 8 grn. |
| Olive Oil..... | 5 oz. |
| Carbolic Acid..... | 2 dr. |
| Glycerin..... | 2 dr. |
| Fl. Ext. Ergot..... | 1 dr. |
| Water..... | 2 dr. |
| Carbolic Acid..... | 12 grn. |
| Glycerin..... | 1 dr. |
| Water..... | 1 dr. |
| Carbolic Acid..... | 30 grn. |
| Ext. Witch-hazel..... | 6 dr. |
| Distilled Water..... | 6 dr. |

BROMIPIN

Dr. Otto Freiburg¹ reports five cases illustrating the results of bromipin treatment. The drug is a clear, oily liquid, containing 10 per cent. of bromine. The author has employed it in doses of four teaspoonfuls daily for three weeks, and later on three teaspoonfuls daily. This course may be repeated if necessary. Two cases of epilepsy were subjected to this treatment. One gave brilliant results, the attacks rapidly decreasing in frequency and finally disappearing altogether. The other patient failed to show marked improvement. One patient, suffering from frequent seizures of dizziness, was cured by bromipin after a course of four weeks' treatment. Another similar case in a scrofulous girl of sixteen showed less marked amelioration, although the glandular swellings diminished in size. Finally, a patient affected with cardiac palpitation and attacks of dizziness, was completely cured by a course of medication with bromipin. No untoward effects were witnessed in any of the five cases.

INTRAVENOUS INJECTIONS IN SYPHILIS

Dr. A. Lichatchew² treated seventeen women suffering from syphilis with intravenous injections of corrosive sublimate. He arrives at the following conclusions.

(1) Injections of sublimate, 1:1000 to 1:5000, into a vein are safe. (2) The injections are out of place in persons affected with sclerotic blood-vessels. (3) Condylomatous syphilitic manifestations readily

yield to this method, and their disappearance is more prompt than after subcutaneous injections of sublimate. (4) No toxic effects have been noted, either in the mouth or intestines. (5) Relapses are more frequent than after the hypodermatic method. (6) The intravenous method is not recommended for general use, but is indicated in cases of intolerance towards other methods.

UREA IN TUBERCULOSIS

Dr. Henry Harper¹ again reports a series of cases (seven) illustrating the value of pure urea in the treatment of tuberculosis. Each of these cases is moreover only a typical representative of a whole group of similar cases similarly treated. The author has been prescribing urea for about two and one-half years and is convinced of its efficiency. Nitrogen and nitrogenous products, he remarks, are the remedy *par excellence* for the tubercle bacillus. Persons who become susceptible to the bacillus have lost their natural resistance owing to the diminished quantity of nitrogen present in their system: "The marvellous power of animal foods on tuberculous tissue has yet to be written."

Healthy wild cattle, when confined in cow-houses and treated as dairy cattle, lose their immunity against tubercle. The large daily loss of nitrogen due to milking, together with the large amount of energy expended in procuring the nitrogen from herbs, accounts for this fact.

Urea is a specific in tuberculosis, affirms the author, quite as much as mercury in syphilis, the salicylates in rheumatism, or potassium iodide in asthma.

Cases suitable for the administration of urea are: (1) Circumscribed pulmonary tuberculosis, the sputum showing few other micro-organisms than tubercle bacilli; (2) tuberculous glands; (3) tuberculous pleurisy; (4) tuberculous laryngitis; (5) lupus; (6) tuberculous peritonitis; (7) hydrocephalus in children; (8) tabes mesenterica.

Unsuitable cases are: (1) Phthisis with predominating cocci; (2) acute military tuberculosis; (3) gastritis; (4) last stages of the disease; (5) patients with a temperature above 101° F.

As to administration, small doses should be given at first, 10 to 15 grn. thrice daily, increasing gradually up to 40 to 60 grn. three times a day. The gain of flesh coincident with the ingestion of urea suggests that the substance is nutritive and that it

¹ *Medico*, 1901, No. 44.

² *Vratch*, XXII, No. 44.

¹ *Lancet*, Dec. 7, 1901

supplements food. Enormous quantities of urea can be consumed by some tuberculous patients, and they crave it as the hungry for meat. It seems to supply a want, for *no increase* in the amount of urea excreted can be detected.

It must be borne in mind, however, that urea is of value in tuberculosis only when Koch's bacillus is the predominating microbe.

ACETANILID POISONING

Cases of poisoning with acetanilid are not very infrequent, especially in children. Dr. Philip Brown¹ reports a fatal case. The patient, a man of thirty-seven, took six "headache powders," each containing 10 grn. of acetanilid. He was found delirious, complained of abdominal pain, vomited, and was slightly jaundiced. He was taken to a hospital. His temperature rose to 100.2° F., the lips and nails became intensely cyanotic, respirations shallow and frequent. The urine, of which 10 oz. were passed on admission, was nearly black in color and strongly alkaline in reaction. After the second day complete suppression of urine supervened, and six days later the man died.

Contrary to current conceptions, the patient showed general hyperesthesia, not anesthesia, the reflexes were increased, and sensory as well as motor functions retained to the end. Acute nephritis, acute progressive jaundice, and hemorrhage from the bowels were also present in this case.

THE TREATMENT OF MIGRAINE

Dr. W. H. Thomson² gives an outline of what he calls the antitoxic treatment of migraine. First of all, disorders due to violation of physiological laws must be treated in obedience to these laws. Active portal circulation is not to be impaired with impunity, and migraine is often nature's penalty for a continuous sedentary life. The indication is thus to secure habitual activity of the portal system.

As to prophylaxis, considering that all severe cases are chronic dyspeptics, commonly constipated, the author orders a 5-grn. blue pill at night, with a saline the next morning, to be taken once weekly and continued for months. A mercurial cathartic is the most certain intestinal antiseptic we possess. Furthermore, 1 or 2 dr. of sodium sulphate with 10 grn. of sodium salicylate are prescribed, to be sipped in a tumbler of hot water every morning on rising. Sodium

phosphate is preferred by some, though it is less active than the sulphate. Then, a half hour before each meal, $\frac{1}{20}$ grn. of potassium bichromate with 3 grn. of bismuth subcarbonate are prescribed. Half an hour after meals and at night, intestinal antiseptics are given in full doses, as 10 grn. of phenol-bismuth or naphthol-bismuth, with 10 grn. of ammonium benzoate or sodium benzoate, administered in two capsules. Although the benzoates are among our best intestinal antiseptics, yet the prescriptions ought to vary according to the individual features of the case. If not well borne, the benzoates may be supplanted by other remedies, as salol, 5 grn., with bismuth subgallate, 20 grn., a half hour before meals and at night.

Often diarrhea is a sign of intestinal derangement. In such cases, blue pill will not infrequently check instead of aggravate the disorder. A dessertspoonful of pancreatic emulsion before meals may also be tried.

The following efficient combination of antiseptics is recommended by Dr. Allen Starr and indorsed by the author:

| | |
|-----------------------------|--------|
| Sodium Sulphocarbolate..... | 5 grn. |
| Potass. Permangan | 1 grn. |
| Beta-naphthol..... | 1 grn. |

In shellac-coated capsules. One after meals and at night.

For the attack itself, when severe, the fluid extract of ergot in dram doses, with a dram of elixir cinchonæ in water, by mouth or rectum, is in the author's experience the most certain means of cutting the attack short. The patient should lie perfectly still after taking it until the pain passes off and the dose may be repeated in two to three hours, if necessary.

If ergot causes vomiting, 10 grn. of lactophenin with 2 grn. of citrated caffeine, every two hours, until relieved, will prove beneficial; or 15 grn. of antipyrine, always to be taken with a teaspoonful of aromatic spirit of ammonia.

As to diet, in every severe case red meats should be avoided. Otherwise every person must avoid articles which he tastes again in eructations, that being a sign of intolerance by the stomach. Excitement, worry, and anxiety are very commonly the immediate causes of an attack of migraine and should therefore be prevented as much as possible.

INTRAVENOUS INJECTIONS OF IODINE

Dr. Spolverini,¹ of Rome, has used intravenous injections of iodine in scrofula and tuberculosis of children, in syphilis,

¹ *Amer. Jour. Med. Sciences*, CXXII, No. 7.

² *Med. Record*, LX, No. 20.

¹ *Therap. der Gegenw.*, 1901, No. 11.

and in chronic articular rheumatism, and has reached the following results:

(1) Pure iodine has shown itself to be the best remedy in tuberculosis of childhood, chronic rheumatic affections, and all manifestations of syphilis.

(2) In tuberculosis, small quantities of iodine, as $\frac{3}{4}$ grn. every third day, are sufficient, while the luetic and rheumatic affections call for considerably larger doses—for example, 3 to 5 grn. every second day. The formula of the milder solution was:

| | | |
|---------------------------------|---------------|------|
| Iodine..... | 16 | grn. |
| Potassium Iodide..... | 48 | grn. |
| Distilled and Sterilized Water. | $\frac{3}{2}$ | oz. |

Formula of the stronger solution:

| | | |
|-----------------------|---------------|------|
| Iodine..... | 24 | grn. |
| Potassium Iodide..... | 75 | grn. |
| Water..... | $\frac{3}{2}$ | oz. |

The intravenous injections are harmless. Children were never given more than $\frac{3}{4}$ grn. at one dose; adults up to 5 grn.

Children with tuberculous peritonitis and adenitis were cured in about seven weeks after eight to eleven injections of $\frac{3}{4}$ to $\frac{5}{8}$ grn. of pure iodine each. The cure was permanent.

Permanent cure was further obtained in a case of chronic articular rheumatism after eight injections, each containing 4 grn. of pure iodine.

The quickest and most distinct results were observed in syphilis. Seven injections of 4 grn. of iodine each caused the disappearance of gummata, multiple periostitic lesions, an orcheo-epididymitis, and all the other objective and subjective phenomena in a syphilitic man of forty-three, inside of twelve days. Other cases were analogous in success. In some of them iodine and tannate of mercury were used, 2 to 3 grn. of the first with $\frac{1}{8}$ grn. of the latter for one injection. If the needle of the hypodermic syringe strikes the vein directly, little pain is experienced. If the needle does not enter the vein, such intense pain is produced as to make the completion of the injection impossible. Even high doses (4 to 5 grn.) never produced symptoms of iodism. Iodine could be detected in the urine immediately after the injection and for three days following. The bodily weight remained stationary or increased, but never fell during the treatment.

Locally, an infiltration of the vein (but no thrombus!) could be observed, which was painless, and in children disappeared in four to five weeks, but remained permanently in adults. In children and women with insufficient development of the cutaneous veins, the injections cannot be employed.

The author has also used this method in subacute pleuritis with success. He is at present occupied with the problem of obtaining solutions of iodine without potassium iodide. He has succeeded in preparing a 5-per-cent. solution in oil, which has all the advantages of the aqueous, and is moreover completely painless.

ICHTHYOL AND CREOSOTE CARBONATE IN TUBERCULOSIS

Dr. Hugo Goldman¹ has treated pulmonary tuberculosis with ichthyol for a period of four years. Ichthyol, called by Unna "the universal remedy," is distilled from the fossil remains of fishes and contains about 10-per-cent. sulphur in a soluble form. Taken internally, it is readily absorbed and eliminated in the feces and urine, after making the circuit of all the organs, and also coming in contact with the lungs. An important action of the drug in the system is the diminution of albumin-decomposition, as has been demonstrated experimentally. This property of ichthyol renders it especially valuable in a disease like tuberculosis, with its obstinate loss of appetite. Another effect of the drug is the constriction of blood-vessels, which accounts for its hemostatic, analgesic, and antiphlogistic actions. All who have used ichthyol internally in phthisis pulmonum are unanimous in their favorable reports.

Most authors have administered the remedy half-diluted with water. Dr. Goldman found that a combination of ichthyol with creosote carbonate is more satisfactory, especially as a stimulant for the appetite. Under that treatment, the number of bacilli in the sputum was diminished. Patients gained in weight, and some were completely cured. Of course, such favorable results could only be obtained before the formation of cavities in the lungs had begun. The following prescription illustrates the author's combination:

| | | |
|-------------------------|--------------------|-----|
| Creosote Carbonate..... | $\frac{1}{2}$ | oz. |
| Alcohol..... | enough to dissolve | |
| Ichthyol..... | $2\frac{1}{2}$ | oz. |
| Peppermint Water..... | 6 | oz. |

Teaspoonful three times daily, in sweet black coffee, before meals.

The daily amount may be gradually increased up to five teaspoonfuls. For children under sixteen years the amount of ichthyol in the prescription was reduced to $1\frac{1}{4}$ dr.; of creosote carbonate to $2\frac{1}{2}$ dr.

The beneficial action of this treatment, according to the author, is due chiefly to the retarding influence of ichthyol on the decomposition of albumin in the system.

¹ *Wiener med. Presse*, 1901, Nos. 29-31.

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EDITOR'S NOTES

The Fable of the Puppy and the Elephant

WE wonder whether many of the readers of the ARCHIVES are familiar with the fable of the elephant and the puppy, written many years ago by the famous Russian fabulist, Kryloff. It runs about as follows: Through the streets of a city a circusman was leading an elephant. On seeing him a little puppy began to bark at him most furiously. The elephant, of course, paid not the slightest attention. The puppy continued to bark, all the time more and more violently. A large dog then addressed the puppy thus: "Why barkest thou at the elephant? Thou seest that he pays not the slightest heed to thee." "Oh," responded the puppy, "that matters not. Nor do I wish to attract his attention. I am barking for those around; they will all think the puppy must be very strong if she dares to bark at an elephant!" Of this fable we are frequently and forcibly reminded by the tone of some speakers and writers, both lay and medical. To ridicule and demolish such men as Darwin, Spencer, Huxley, Virchow, Koch, Lister, etc., is nothing to them. They are playthings in the hands of those great critics or—shall we say—barkers. It is really funny to see some backwoods practitioner, living in a town with a population of perhaps fully a thousand souls, demolishing to his own satisfaction, with one blow, the whole science of pathology, bacteriology, chemistry, experimental therapeutics, serum-therapy, antiseptics, etc., etc. But if

those critics think that they deceive anybody, if they think they are considered erudite because they dare attack the great masters of philosophy and science, they are mistaken. It has long been known that fools rush in where angels fear to tread.

The Physician as a Dispenser of His Own Medicines

"THERE is no effect without cause" is a law of nature, and being a law of nature it is absolutely true under all circumstances, and has no exceptions. It is as true with regard to the course of the planets, as it is regarding the smallest event of our social or individual life. In some instances the causes are obscure or hidden, but a careful search will generally reveal them; if not fully, in part at least. Our druggists naturally have no love for the dispensing physician, but to ascribe the self-dispensing to selfish motives exclusively is wrong. While we believe that the interests of all concerned are served best by the pharmacist and physician exercising each his proper function, still we know that the latter is often driven to self-dispensing by the shortcomings of the former. These shortcomings are: incompetence and very poor stock. We are just in receipt of a letter from a bright physician in a small town in South Dakota, which is very characteristic. Showing that he is compelled to do his own dispensing, he writes: "... I wish you might appreciate my situation out here. This is a frontier town; but one drug-store, with an 'I don't care a d—' proprietor. I send a R for Liq. ferri chloridi; it is filled with the tincture—no results—the doctor is d—d. I send another for 2-per-cent. carbolic-acid solution for poulticing; it is filled 5 i of acid to the 5 of water; skin of the arm burned off and the doctor again d—d and d—d. I go for glycerin—out of it; for tannic acid—out; MgSO₄—out, and so on and so on. I had him wire in an urgent case for stypticin to Lincoln and Omaha, couldn't get it. I call for Basham's mixture—'don't know what it is'; Liq. ammonii acetatis—the same. But! Good practice, good money, good climate; the fossil deposits a delectable delight to a student. Very truly, W. J. McR., M.D."

Vituperation of the Medical Profession

WE doubt if the average physician, turning in his own medical circle only, has any idea of the amount of vituperation and calumny heaped upon the medical profession by a certain class of the laity. There is a certain class of so-called reformers who,

while generally honest and sincere, are extremely ignorant and shallow, and it is they who take a special delight in carping upon the "ignorance," "superstition" and "backwardness" of the medical profession. While their speeches and writings are extremely ludicrous to every intelligent physician, they do exert an influence on their listeners and readers, who are unable to refute so-called facts or contradict garbled statements and statistics. Hence there is growing a strong sentiment against the medical profession—the scientific part of it—in certain quarters.

One of those unconscious humbugs, who probably means well, thus arraigns the medical profession: "Some may think me too severe on the medical doctors, but I am not. I have seen more of their works than some others, hence know more of their inner workings. I will quote from a medical work of 1747 to prove the ignorance and even superstition of doctors only 150 years back." And then he proceeds to quote some silly stuff from an anonymous publication published in Boston in 1747. Now, in the words of Mr. Oppen, wouldn't it jar you? To arraign the medical profession of the present day for some silliness printed more than 150 years ago! Is it possible that the author is so deeply ignorant, that he does not know that true rational scientific medicine is not even a century old? Doesn't he know that in the middle of the eighteenth century there wasn't such a thing as cellular pathology, bacteriology, or experimental therapeutics, while physiology and histology were still in their infancy? How would it do if we tried to show up the ignorance and backwardness of the chemists and electricians by quoting from some pamphlets on so-called chemistry and electricity printed a century or a century and a half ago? Nevertheless, the above reformer probably considers himself honest, sincere, and a benefactor of mankind.

Healthy Hands

No other part of the physician's body requires greater attention than his hands. Their integrity must be absolute. The least scratch, cut or abrasion may ruin a physician's career, causing life-long sickness and suffering or even death. The profession at large is probably not aware of the fact that one of the world's greatest surgeons—whose name is familiar to every physician—contracted syphilis in one of its most virulent forms on account of a little abrasion on a finger. That disease nearly brought his useful career to an end and he

never got over the effects entirely. At the last meeting of the American Medical Association Dr. Bulkley reported the case of a physician under his treatment who contracted syphilis in a similar manner. The consequences were so severe that the case deserves to be recorded here as a warning.

**

Dr. —, aged forty-seven, injured the skin near the nail of the right index finger, with a nail cleaner, and very soon after the part was exposed while treating a chancre of the vulva. A few weeks later there was a slight sore on the end of the finger, under the nail, which in a week or two became a rather painful, small ulcer. The nature of the trouble was not suspected until a general macular eruption appeared, and under anti-syphilitic treatment the eruption disappeared very promptly and the finger healed; at the same time the severe general malaise, with fever, ceased. Five or six months later subjective symptoms appeared again, but as there were no external manifestations of syphilis, the cause was not suspected, and specific treatment was not used. For the two years following the patient was miserable, long periods of rest and much treatment for stomach and other troubles being necessary. There was a severe and steadily increasing pain in the lumbar region, and about eighteen months after the finger was infected he found it difficult to go up and down stairs and to get into a carriage; the patient's legs dragged and he felt weak and tired, and yet there was no suspicion of the cause, it being all attributed to overwork.

After retiring one night (March, 1898) two years after the infection, he became delirious and for the following five days was insane. It was then suspected that the cause was syphilis, and potassium iodide was administered freely. During the next three months there was increasing motor disturbance in the lower limbs, and in June, when attempting to leave the bed, the lower limbs were found to be totally paralyzed; this paralysis lasted for about five months. Power in the limbs then returned very slowly and he can now walk with difficulty with the aid of two canes, but he can not stand for more than a minute. The bladder and rectum are both partially paralyzed, requiring the use of the catheter and high rectal injections. He is at present under active, mixed treatment, and his condition is improving.

Reports of cases of physicians contracting syphilis and other diseases in an innocent manner are entirely too frequent.

We, therefore, say whenever a physician is to examine a suspicious case, he should make *sure* that his hands are in perfect condition. One of the best ways to make sure is to wash the hands thoroughly with acetic acid or vinegar; the least abrasion will be detected by smarting. The physician can then protect the point with collodion, simple, or preferably iodoform-collodion, or with some aseptic varnish.

* * *

Heredity as a Factor in Disease

How rudely our cherished ideas are getting shaken up of late! And how disestablished do our well-established facts become! For a long time heredity has been considered as one of the most important factors in the etiology of disease; but now, as the *Courier of Medicine* says, "heredity as a factor in disease is receiving almost daily another push into the abyss of old theories." While there will be few rash enough to deny altogether the importance of heredity, still it must be admitted that it is coming to be considered as of secondary importance. The German National Commission appointed to investigate the subject of cancer reports that heredity as a factor in that disease may be disregarded altogether. This perhaps will not be so surprising, because the number of physicians who believe in the hereditary nature of cancer is comparatively small. But tuberculosis! This has always been considered one of our most hereditary diseases; nevertheless, communications denying any hereditary influence in tuberculosis are quite frequent of late. For instance we abstract the following from the Russian journal, *Vratch* (xxii, No. 12):

"Dr. E. E. Miller has investigated the subject of the hereditary influence of tuberculosis. In 71 successive cases treated by him during a period of four years, only 11 (15.5 per cent.) gave a history of tuberculosis in one or both parents. The author therefore believes that hereditary transmission of tuberculosis, or even of a predisposition to tuberculosis, is a medical myth. He says if we collected statistics of any other disease, say, measles, whooping-cough, typhoid fever, etc., we would find a much larger percentage of the same disease in the parents. Nevertheless, we do not speak in those diseases of hereditary transmission. Taking into consideration the wide discrimination, the universality of the disease, it would be curious if not only in 15 but even in 50 per cent. of all tuberculous patients one of the immediate parents or grandparents had not been suffering with consumption."

Independence in Medical Opinions

ONE of the most frequently repeated charges against the regular medical profession is that its members are too much guided by authority, too much bound down by system and dogma. Even if a method of treatment be against common sense or against the personal judgment of the practitioner, he will employ it, because the "books" or authorities say so, and demand obedience to their verdict. This charge is made by the various kinds of irregulars, and also by a portion of the quasi-intelligent public. The well-informed know, of course, that this charge is utterly false; that there is no portion of the medical profession that is, at the present day, so absolutely free to follow its own judgment, to take what seems best from any method or system as that portion which is generally termed the "regular." And as to the charge that the authorities of the medical profession demand obedience to their judgment or verdict, let us see what one of the greatest physicians that ever lived has to say on the subject.

* * *

Rudolph Virchow, the ornament of the regular medical profession, great not only as a physician, but as a scientist and as a man, wrote in 1849—more than half a century ago—as follows in his "Einheitsbestrebungen in der Wissenschaftlichen Medicin:"

"Two obstacles have always been in the way of the progress of medicine: authorities and systems. Authorities may be referred to for certain observations and thoughts, but the self-conscious man follows them only when they (the authorities) offer him a guarantee of their ability to observe and think properly, and even then only so long as their observations and ideas do not conflict with his own observations and ideas. All authority must, therefore, be a relative one only; it *may guide* our observation and judgment, it must never dictate them. . . . His own (the physician's) senses and thoughts must be his supreme, highest, authorities!"

Does that look like discouraging independent thinking and research? And this was written more than half a century ago!

* * *

Centenary of NaHCO₃

ON the 11th of September of last year a modest chemical had reached its one-hundredth anniversary. It was on the 11th of September, 1801, that the Chemist Valentin Rose first produced sodium bicarbonate—by the action of CO₂ on Na₂CO₃.

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

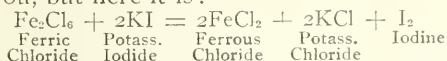
Various Prescription Incompatibilities

F. J. L. writes: Will you kindly comment on the two subjoined prescriptions. May they be dispensed or are they incompatible? If they are incompatible, please explain reason:

- | | |
|--|------|
| 1. Tr. Ferri Mur..... | j |
| Potass. Iodidi..... | ss |
| Quin. Sulph..... | ij |
| Syr. Simpl..... | ij |
| Aquæ, ad..... | viii |
| Teaspoonful three times a day after meals. | |
| 2. Liquer Plumbi Subac..... | iv |
| Ac. Carbolic..... | j |
| Aquæ..... | Oj |

Use externally, as directed.

The first prescription is badly incompatible. The ferric chloride when coming in contact with potassium iodide (or another iodide) decomposes it, setting iodine free; the ferric chloride itself becomes reduced to ferrous chloride. We do not know whether the equation will be of any interest to you, but here it is:



But this is not all. The iodides are generally incompatible with the alkaloids, precipitating them. In this case the potassium iodide, and still more so the free iodine, will precipitate the quinine as quinine iodide or hydroiodide. Such a prescription should never be written, and if written should not be dispensed.

The second prescription may be dispensed, provided the dispensing is done properly. If the carbolic acid be directly added to the solution of lead subacetate, a thick flocculent precipitate will form, which is hard to distribute. The proper way to do is to dissolve each ingredient separately in half the amount of water prescribed ($\frac{1}{2}$ pint), and then to mix the solutions gradually and with a good shaking. A shake label should be put on the bottle.

Loeffler's Diphtheria Solution

G. G. writes: Would you kindly publish the present authentic composition of Loeffler's solution for the local treatment of diphtheria; there is a certain confusion in the formula as published by various authors.

The solution which Loeffler originally recommended, in a paper read at a meeting of the Congrès international d'Hygiène et

Dermographie, held at Budapest, September, 1894, has the following formula:

| | | |
|-------------------------|--------|-----------|
| Toluene (Toluol)..... | 18 Ce. | (4½ dr.) |
| Solut. Ferric Chloride. | 2 Ce. | (½ dr.) |
| Menthol..... | 5 Gm. | (75 grn.) |
| Alcohol..... | 30 Ce. | (1 oz.) |

The menthol is dissolved in the toluene and the other ingredients are then added. This solution possesses strong penetrating powers and, as said above, presents Loeffler's original formula. Various changes have been made in it since its introduction; thus, the solution of ferric chloride is sometimes replaced by creolin or cresol, etc. Whether the mixture is improved or otherwise by these changes we cannot, of course, say.

Beta-Eucaine in Infiltration Anesthesia

A. N. asks whether beta-eucaine may be used in infiltration anesthesia by the Schleich method

Yes, it may be and has been used either to replace the cocaine or the morphine. Prof. Mikulicz uses the following solution:

| | | |
|-----------------------------------|-------|-----------|
| Cocaine Hydrochlorate. | 0.5 | (7½ grn.) |
| Beta - Eucaine Hydrochlorate..... | 0.5 | (7½ grn.) |
| Sodium Chloride..... | 2. | (30 grn.) |
| Distilled Water..... | 1000. | (32½ oz.) |

He does not add morphine, because he claims it has no local effect at all and sometimes shows an undesirable general one. When it is deemed advisable to get the additional morphine effect, he injects hypodermically 1 centigram ($\frac{1}{10}$ grn.) of the drug about half an hour before the infiltration anesthesia.

Hydriodic Acid, Nuclein, Morphine

R. R. E. asks: (a) How much syrup of hydriodic acid (1 per cent. strength) would equal in therapeutic value 10 grains of potassium iodide?

(b) Can you give a working formula for making nuclein?

(c) Can morphine be given so that it will not cause nausea when given for relief of severe pain?

(a) A tablespoonful of syrup of hydriodic acid is generally considered therapeutically equivalent to 10 grains of potassium iodide. It is a difficult matter to determine with exactness the therapeutic relationship of several substances, even if the substances do contain some ingredients or elements in common. The manner in which the atoms are combined has an important influence on the therapeutic action. Speaking from a purely chemical standpoint, it requires between 12 and 14 drams of syrup of hydriodic acid to equal 10 grn. of potassium iodide; a teaspoonful of the syrup contains about 0.6 grn. of iodine, while 10 grn. of potassium iodide contain 7.6 grn. of iodine. But as said above, we cannot always go by

percentage contents. It is not exactly how much you put in, but how much is absorbed and assimilated that is of importance. Potassium iodide, it has been shown, decomposes rapidly in the system and is rapidly eliminated, so that its effect is rather transient; and it is perhaps on account of possessing opposite properties that other iodine-containing preparations—such as hydriodic acid and iodipin—are more efficient. It must also be remembered that potassium iodide is more irritating than the syrup of hydriodic acid.

(b) There are quite a number of substances known under the name nuclein, and the various nucleins on the market do not by any means represent one and the same thing. They all have in common the following points: They contain phosphorus and they are not digested by pepsin and hydrochloric acid or trypsin; they are easily soluble in diluted alkaline solutions. Nuclein is more commonly prepared from yeast, yolk of egg or milk-casein. The general method for preparing nuclein from yolk of egg or casein is as follows: The substance, deprived of its fat, is macerated in a solution of hydrochloric acid, the undissolved residue is treated with a 1-per-cent. solution of soda; this solution is treated with hydrochloric acid and the precipitate is washed first with water, then with alcohol. The therapeutic value of the nucleins is still *sub judice*; the assertion that nuclein is the substance to which the blood owes its antiseptic properties is very far from being proven.

(c) You did not state in which way you administer the morphine—hypodermically or per os. Some persons have such a strong idiosyncrasy against morphine, that even the smallest dose will produce disagreeable symptoms and nothing can be done to prevent them. Administering the morphine in bitter-almond or cherry-laurel water, or in conjunction with small doses of caffeine or sodium bromide, will in a large percentage of cases prevent any nausea.

Safe Depilatory

S. H. W. writes: In the ARCHIVES for November I notice in "Queries and Answers," in answer to Dr. H. L., a safe and effective depilatory is given. I would like to ask a further question about it. What would be the effect on skin and hair-growth from the continued use of it week after week for a period of years, same as a man would use the razor. Would you prescribe it for continuous use in a woman with a beautiful complexion other than some superfluous hair.

In our opinion the continuous application of the depilatory for many months would have the effect of eventually stopping the

growth of hair on the spot so treated. This much we *know*: the growth of the hair after the application of a good depilatory is retarded for a considerably longer period than after an ordinary shave. The reason lies probably in the fact that the depilatory penetrates to a certain extent *into* the tissues. To protect the skin from becoming roughened by the long continued application of the calcium sulphhydrate or any other depilatory, it would be necessary to apply rather frequently an emollient salve, such as cold cream or zinc oxide ointment.

Dose of Sodium Succinate

Dr. J. J. T. writes: I see in the ARCHIVES of March, 1901, that sodium succinate is highly recommended by Dr. C. F. Hope, and also by Dr. Waugh, for use in jaundice. The dose stated in the ARCHIVES is 5 grn. I want to know if that is the correct dose. In view of the possibility of typographical and other errors, I wish to be on the safe side.

It is a good practice, when dealing with new or little known drugs, to make sure as to dose, incompatibility, etc., before instituting a trial. Errors in medical literature are, unfortunately, rather frequent. In the above case no error crept in—the dose is 5 grains.

Banti's Disease

J. A. R.—What is understood under Banti's disease? I cannot find any mention of it in any dictionary in my possession.

The term Banti's disease is applied to a form of anemia characterized by enlargement of the spleen (splenic anemia) and ascites.

Antitussin

J. B. C.—Antitussin is chemically difluor-di-phenyl; it has been highly recommended as an embrocation—in ointment form—for whooping-cough. There haven't appeared any reports on its use for quite some time.

Aniline in Tuberculosis

Dr. F. O. S. asks for information regarding the use of aniline in tuberculosis. He saw a reference to it in an abstract from the *Revue médicale du Canada*.

Concerning the inhalation of aniline in tuberculosis, we cannot give you much more information than that contained in the French journal mentioned, except to say that such use of aniline is not by any means new. We, of course, do not deny the possibility of the author of this article, Miss Eva Abramovich, having discovered the beneficial effects of aniline quite accidentally; still, the drug has been used for the

purpose for many years, by Russian physicians especially. One professor connected with the University of Charkow, whose name we happen to forget, has published some very favorable reports on the use of this product. We know personally of a case of pulmonary tuberculosis in the second stage which was radically and permanently cured by this treatment. The treatment itself is not a very pleasant one, as the inhalation occasionally causes intense cyanosis and dyspnea; but still it seems to have yielded quite good results in a number of cases.

Dr. J. O. P. reports a case of nephritis in which formin, or urotropin, caused irritation, and asks whether that was an exceptional case or if similar cases have been reported before.

It does occasionally happen, when the kidneys are acutely inflamed or congested, that formin or urotropin produces irritation—this has been reported by several observers. The way to obviate the irritation in a degree is to administer small doses (from 2 to 3 grn.) in a large quantity of water several times a day. It is more in *cystitis* than in nephritis that formin is indicated. The formin may also be dissolved in a demulcent vehicle, such as infusion of flaxseed, flavored with a few drops of lemon juice.

J. Z. T. writes: What is the dose of valerianate of sparteine? If this salt of sparteine is not manufactured, how can I combine the sparteine and valerian to get a good mixture? How about sparteine and valerianic acid? and how and in what proportions shall I combine them to get a good working formula?

I wish to know if the following formula can be made into tablets without injury to the combination, to the patient, or to a single one of the drugs thus combined:

| | | |
|----------------------------|-----------------|------|
| Copper Phosphate..... | $\frac{1}{8}$ | grn. |
| Strychnine Hypophos..... | $\frac{1}{128}$ | grn. |
| Quinine Hypophos..... | 2 | grn. |
| Sodium Cacodylate..... | $\frac{1}{50}$ | grn. |
| Sodium Cinnamate..... | $\frac{1}{5}$ | grn. |
| Arsenous Acid..... | $\frac{1}{100}$ | grn. |
| Mercuric Chloride Cor..... | $\frac{1}{500}$ | grn. |
| Euonymin..... | $\frac{1}{3}$ | grn. |

For one tablet.

If these ingredients in this shape would work injury one way or the other, what other salt or ingredient of the same product could be substituted to get the same medicinal results?

The salt sparteine valerianate can be, but is not, manufactured, and it is therefore not upon the market. You can combine sparteine with valerianic acid, but a much simpler way for you to do would be to prescribe a solution of sparteine in fluid extract or tincture of valerian. The dose would be the same as of other sparteine salts— $\frac{1}{4}$ to 1 grain. The formula you submit is quite compatible if properly prepared, and the tablets will be permanent.

C. H. S. writes: Patient, female; aged forty-seven; married. She was taken suddenly. Cold extremities; pulse very feeble; in fact, hardly perceptible; gasping for breath; spell passed, and was repeated four times. She felt as if there was something like a loose curtain hanging in her throat trying to come up, but could not. It seemed as if she could not breathe; wanted to be fanned. When spell was over pulse got better and she rested easier.

What is the trouble? What is to be done to give immediate relief?

The data are insufficient for a definite diagnosis. Might be an attack of simple syncope, or some hysterical manifestation. Hysterical patients very frequently complain of a ball rising to their throat and choking them. Nitroglycerin, by mouth or hypodermically, strychnine hypodermically, or amyl nitrite by inhalation, should be useful in giving immediate relief.

J. A. asks for the formula of an eczema lotion, usually known under the name of Pink Lotion.

The formula for this preparation is usually as follows:

| | | |
|--------------------|---------------|-------|
| Calamine..... | 1 | dr. |
| Zinc Oxide..... | 2 | dr. |
| Carbolic Acid..... | $\frac{1}{2}$ | dr. |
| Glycerin..... | 4 | dr. |
| Lime Water..... | 1 | oz. |
| Rose Water..... | to make | 4 oz. |

Shake well and apply with cotton.

Calamine is the native zinc carbonate and has a reddish color, hence the name of the mixture. The quantities of the ingredients are frequently varied.

W. P. writes: Could you recommend a good depilatory powder? Something easy to make and easy to apply.

Barium sulphide (remember, not sulphate) is an efficient depilatory. Applied pure it is sometimes too severe in its action, but mixed with starch and zinc oxide its action is milder. The following formula may be recommended:

| | | |
|----------------------|---|-----|
| Barium Sulphide..... | 2 | dr. |
| Zinc Oxide, | | |
| Starch, of each..... | 1 | dr. |

Rub in well at night.

Dr. S. B. asks for the treatment of prostatic enlargement.

Ichthyol suppositories, with or without iodoform, have been used with success in prostatic enlargement. Injections into the posterior urethra of a mixture of eucrophen and aristol in oil of petrolatum have been used with alleged success and are highly recommended by some physicians. If the urine is fetid, then formin in 5 grn. doses, three or four times a day, would prove highly beneficial both in clearing up the urine and in curing any cystitis which may accompany the enlargement of the prostate.

Prescriptions

A collection of approved and reliable formulæ for the treatment of various diseases, usually those prevalent at the given season of the year. They are gleaned from the best periodical literature of the entire world, from the latest standard text-books on *Materia Medica* and *Therapeutics*, while some are contributed by our readers, who have tried them and found them effective in their daily practice. They are all carefully analyzed before being submitted to our readers.

Acute Bright's Disease

Acute nephritis is a severe affection, but it is one of the most satisfactory conditions to treat. With proper treatment the mortality should be practically *nil*, and chronic nephritis as a sequela should be a thing unknown. The temperature of the room should be uniform and rather high, between 74 and 78° F. While the room should be ventilated, great care must be taken to avoid draughts or chilling the patient. The underclothing should be woolen and the patient be well covered. Unless the patient's temperature is high, one or two hot water bags to the feet will prove useful. The diet should be: Milk, koumyss, matzoon, and lots of water. The conditions to meet are: to relieve the congestion of the kidneys, increase the secretion of the kidneys, and, if the latter can not be accomplished, to provide temporarily other channels of elimination. For the first purpose, counter-irritation to the region of the kidneys is necessary. Dry cups are often indispensable; in conjunction with those, or as a substitute for them, the following ointment has been found very useful:

| | |
|----------------------|----------|
| Chloral Hydrate..... | 1 dr. |
| Camphor..... | 1 dr. |
| Oil Turpentine..... | 2 dr. |
| Oil Mustard..... | 10 drops |
| Powd. Capsicum..... | 2 dr. |
| Petrolatum..... | 2 oz. |

Apply with friction over region of kidneys every three to six hours. Cover with flannel bandage and put one or two hot-water bags under patient's back. Two grains of pilocarpine hydrochlorate may be incorporated with the ointment. Some physicians prefer poultices and the following makes a good combination for the purpose:

| | |
|-----------------------------|---------|
| Ground Flaxseed..... | 1 pound |
| Powd. Black Mustard..... | 2 oz. |
| Powd. Digitalis Leaves..... | 4 oz. |
| Powd. Jaborandi Leaves..... | 4 oz. |

The patient must be made to take plenty of fluid, in different shapes and forms: weak tea is not inadmissible; lemonade, with 20 or 30 grn. of cream of tartar to each draught, is both useful and agreeable.

Internally, both as a diuretic and diaphoretic, the following should be given:

| | |
|--|---------------|
| Infusion Digitalis (freshly prepared)..... | 3 oz. |
| Potass. Bitartrate..... | 1 oz. |
| Spirit Nitrous Ether..... | 1 oz. |
| Spirit Glonoin..... | 16 min. |
| Solut. Ammonium Acetate..... | 3 oz. |
| Syrup Raspberry..... | to make 8 oz. |

Tablespoonful every two to four hours, according to indications. (Shake well before using.)

The bowels should throughout the course of the disease be kept gently open. At the beginning the following should be given:

| | |
|----------------------------|---------------|
| Mild Mercur. Chloride..... | 6 to 10 grn. |
| Comp. Jalap Powder..... | 15 to 20 grn. |

After this, dram doses of magnesium sulphate, dissolved in about an ounce of water, should be given frequently, according to indications. The following pill is also useful as a diuretic-cathartic, and is often remarkably effective in relieving edema:

| | |
|------------------------------|--------|
| Mild Mercurous Chloride..... | 1 grn. |
| Powd. Squill..... | 1 grn. |
| Powd. Digitalis..... | 1 grn. |

For one pill. One pill three times a day.

To prevent stomatitis, etc., a saline should nevertheless be given once in a while. Should the patient be unconscious at the beginning of an attack, or uremic, a dose (2 to 3 drops) of croton oil dissolved in castor or olive oil, should be administered per os or per rectum. Other symptoms must be met as they arise. But if we keep the eliminative channels open, we will seldom need other treatment. The severe headache which is so frequently a feature of acute Bright's disease generally disappears as soon as the diuresis is established; it often disappears after a good evacuation of the bowels. Being of toxic origin, the headache is relieved as soon as the poisons are eliminated from the system.

Varicose Ulcers:

| | |
|---------------------------|--------|
| Carbolic Acid..... | ½ dr. |
| Boric Acid..... | 2 dr. |
| Camphor..... | 2 dr. |
| Ichthyol..... | 5 dr. |
| Expressed Oil Almond..... | 2½ dr. |
| Ointment Zinc Oxide..... | 3½ oz. |

To be applied after thoroughly cleansing the ulcer and surrounding tissue with green soap and hot water.

Internal Hemostatic:

Calcium Chloride (CaCl₂) seems to have become pretty well established as a remedy to stop internal hemorrhages. It has a burning taste, which the following combination disguises pretty well:

| | |
|----------------------------|---------------|
| Calcium Chloride (Pure)... | 60 to 90 grn. |
| Tinct. Cinnamon..... | 2 dr. |
| Brandy..... | 6 dr. |
| Syrup Orange..... | 1½ oz. |
| Water..... | to make 4 oz. |

Tablespoonful every two hours; the whole to be taken during the twenty-four hours.

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

The Cruelty of Foie Gras.—The sentimentalists who devote so much energy towards the suppression of experimental scientific research conducted upon the lower animals will find an abundant harvest of absolute wanton cruelty on all hands if they care to look for it. How many anti-vivisectionists, we wonder, eat foie gras? Do they know that it is made from the diseased livers of geese which are deliberately brought to death's door by treatment that is diabolically cruel? The unfortunate birds are cooped up indoors in boxes so arranged that the head alone can be moved. They are then crammed with a rich diet, which is forced down their gullets. Under these circumstances the liver soon becomes affected, and in about three months has attained an enormous size from fatty degeneration. The larger the liver the more successful the process. The most valuable livers are those of a green tint; that is to say, fatty livers impregnated with bile pigments. The centre of this trade is Strasburg, which sends out annually about £150,000 worth of this delicacy. A recent petition to the civic authorities of London to exclude foie gras from the banquet recently given to the Prince of Wales has excited the liveliest alarm among the merchants of Strasburg, inasmuch as, after Paris, England is their next best customer. Three months of forced feeding is required to bring the unfortunate birds to the proper pitch of organic degeneration, so that their livers may tickle the palate of fat gourmands. Of a truth, any anti-vivisectionist who eats foie gras is committing an act of farcical incongruity. On the one hand he is eating a toothsome morsel procured by a course of prolonged torture practised upon a harmless domestic fowl, while on the other he is railing at scientific men whose aim in experimentation is the highest conceivable—namely, the alleviation of suffering among mankind. Meanwhile, Strasburg flourishes and science is tied hand and foot in the United Kingdom.—*Med. Press and Circular.*

The Health and Illness of Charles Darwin.—Recently there has appeared a sort of mania for the study of the illnesses of famous people. Within a short time we have noticed such studies of the life of Goethe, Heine and Darwin, and several other persons of more or less eminence. These studies are all of more or less interest, but the importance of Darwin's work in its indirect dealing on the medical sciences gives his life a peculiar interest to the physician. W. W. Johnston discusses, "The ill health of Charles Darwin, its nature and its relation to his work," in an interesting article which appeared in the *American Anthropologist* (N. S., III, January to March, 1891, p. 139).

Darwin came of a family of physicians, and inherited from his grandfather (Dr. Erasmus Darwin) and his father (also a physician) a strong constitution and a large frame. His earlier teachers considered him an ordinary boy. His intense interest in natural history subjects, as well as the influence of his father and family, no doubt determined his going to Edinburgh to study medicine. He attended two very severe operations soon after beginning his medical studies, however, and his experiences convinced him that he could

never be a physician. Hence he went to Cambridge to take up his further studies. During this period of his life Darwin was in excellent health; he was fond of out-of-door life, and spent much of his time in shooting and other sports. One of his teachers in Cambridge, appreciating his talents, recommended him for the position of naturalist to the Beagle, and his voyage of study and discovery made his name and fame as a naturalist, and was also responsible for his many years of illness. During this voyage of five years he underwent many hardships and suffered severely from seasickness. Not only was there the mental overstrain and physical discomfort of ship life, but there were many long land journeys, and there was much exposure to heat and cold in different climates. As an example, we are told that Darwin traveled in South America on horseback over 400 miles, through an uninhabited country to Buenos Ayres, and on this journey he suffered frequently from hunger and fatigue. At another time he traveled 300 miles in an open boat along the coast of Terra del Fuego. These experiences were the beginning of an illness which lasted over forty years, during which time it is said that he never knew a day of health. Not only on this voyage, but after he returned and pursued his studies further there was a constant overstrain of the nervous system and an expenditure of energy in excess of the normal supply. His body was fatigued by excessive work, and the intense sustained application of his mind to a series of investigations requiring the exercise of faculties of the highest order, taxed even his system beyond its endurance. There were probably no organic changes, and we should class his affection as a chronic neurasthenia of severe grade, due at first to the overstrain of the Beagle voyage and to his life of hard intellectual work. Later in life arteriosclerotic changes manifested themselves, and death followed finally from angina pectoris, in his seventy-fourth year. At various times during his illness he was under the care of Sir Andrew Clark, Dr. Bence Jones and other eminent physicians, and during the latter part of his life he was much benefited and fairly free from any intense suffering. An interesting question is, whether this suffering could have been prevented. It seems probable that had Darwin on his return from his voyage given up all work for a year or so and lived a life of rest and diversion, that a cure would have resulted and his subsequent life would have been much more comfortable. Too many men, like Darwin, work the human machine up to its limit. We should draw a lesson from their experience, and remember that rest and recreation are as essential as work for most people who hope to become successful, and certainly without such recreation life is hardly worth living.—*Amer. Med.*

Three Classes of Workers. In all the activities of life three classes of workers are to be found, the man of genius, the man of talent, and the ordinary plodder—as they may be called, and especially in medicine in this division of work notable.

The three divisions are strongly interdependent; the genius is rarely a practical man and cannot as a rule extensively apply the discoveries and advancements that seem clear enough to him. He cannot successfully apply his deductions, perhaps because he lacks the necessary talent, or because he is away in advance of the great mass of plodders, in which event it becomes imperative to educate up to the application of a new fact. This has been the history of almost all great advances.

ments, which leads so often to the expression touching a genius of the past, that he was greatly "in advance of his time." It is because the great mass of humanity or the mass of professional workers, slowly grasp new and distinctly advanced truths. Jenner was years ahead of his time in point of antitoxin medication.

The genius is the workshop thinker, the experimenter, the profound student, often faulty (impractical) in thought—more or less visionary—yet withal a progressive thinker and leader in thought. He can see how many a thing in medicine and surgery might be done, or ought to be done, but he so frequently lacks the intuitive power of himself doing it.

Next, there is the man of natural talent for direct and successful application of means brought to hand—as it were. He has an adaptability, or seemingly can create an adaptability between means, a condition and a desired result. He does not follow the limitations of scientific rules—he is more likely to be controlled, or rather guided, by circumstances having no rules. A working knowledge of the means furnished by the genius he must, of course, possess; and he has a good, general knowledge (speaking, be it remembered, of medicine) of human traits, characteristics and demands. He must have a good understanding of natural laws.

With these reins in hand he guides, often obtaining credit belonging to Genius, but deserving only that of leadership in application, not discovery.

It may often be a question whether more merit attaches to the discoverer of a beneficent fact, or the one who promotes such fact.

The man of talent is always a successful teacher—that is where his talent comes in. He is to teach, and thus broadly apply, the findings of the man of genius. The more forcible and widespread the teachings of this man of talent, other things being in accord, the more entitled is he to just fame and the more material rewards of well-directed, positive and conscientious endeavors.

The plodders constitute the great majority—the steady, earnest, every-day workers who cannot emulate the man of genius but try to emulate the man of talent. They are the solid appliers—the workers by rote very largely—and the world depends upon these men.

Upon the medical genius rests the responsibility of concise logic and demonstrable, beneficent evolutions of broad application; upon the talented teacher depends a true process of reasoning between an applicable fact and its direct application; upon the so-called plodder there lies the detailed and constant carrying out of accepted teachings and the observation of results.

Each is thus necessary to the other and an evident alignment should obtain.—*The Clinical Review*.

The Nobel Prizes.—The five Nobel prizes, consisting of a little over \$40,000 each, which are awarded annually in accordance with the provisions of the will of the late Alfred Nobel, the inventor of dynamite, were awarded December 10. Mr. Nobel left an estate valued at almost \$9,000,000, and his will directed that the interest on the capital should be awarded as prizes to those persons who should have contributed most materially to benefit mankind during the year immediately preceding. The income from this amount, which was divided into five equal parts, was awarded as follows: To the person having made the most important discovery in the science of physics, to Prof. Röntgen; to the person having made the

most important invention or discovery in the domain of chemistry, to Dr. Van Hoff; to the person having made the most important discovery in physiology and medicine, to Prof. Behring; to the person who had produced the most distinguished idealistic work in literature, to Armand Sully-Prudhomme; and to the person who has labored the most or best for the fraternizing of nations and for abolishing or diminishing standing armies, and for the formation of peace congresses, to Dr. Henri Dumant and Frédéric Passy, equally. The prizes were distributed by the Crown Prince of Sweden and Norway in Christiania, and all the winners were present except Sully-Prudhomme.

A True Hero of Medicine.—The title "Hero of Medicine" has been reserved for the workers who have striven to wrest from Nature the secret of disease or given us new weapons with which to fight against death. But a professional heroism equal, perhaps indeed superior, to that of the discoverer or the pioneer is shown by the practitioner who sacrifices ease, health, and often life in the faithful discharge of his mission of relieving suffering. A striking example of heroism of this kind has recently been afforded by an Irish doctor who in his unselfish devotion to patients of the humblest class has died of disease contracted in the course of his ministrations. The sad, yet glorious story is told by Sir Christopher J. Nixon, Mr. Thomas Myles (Presidents of the Royal College of Physicians of Ireland and of the Royal College of Surgeons in Ireland), and Sir Francis Cruise, and Sir Thornley Stoker, ex-Presidents respectively of the same Colleges, in an appeal issued by them. Dr. William Smyth was the medical officer to the Burtonport Dispensary District, which includes the island of Arranmore. The island was visited by an epidemic of typhus fever. Owing to the terror inspired by the disease, Dr. Smyth could get no help in fighting the epidemic. Alone each day he rowed his boat across the stormy waters of the Sound to the island—a distance of four miles. Alone he tried to be at once nurse and doctor to the poor stricken people in their miserable homes. When at length he succeeded in persuading them that their only chance of recovery lay in removal to the mainland, he was confronted by the difficulty that no one would help him, or even lend him a boat. Fortunately Dr. Brendon McCarthy, Medical Inspector to the Local Government Board, arrived on the scene. Without any other help, these two devoted men brought the patients down to the beach, embarked with them in a crazy boat, and rowed them across the Sound. The boat was only kept afloat by the continuous baling of the strongest of the patients, and sank five minutes after reaching her destination. Happily all the patients were safely transferred, and are all now on the way to recovery. But Dr. Smyth has fallen a martyr to his devotion to duty, having himself contracted the disease which he had fought so manfully. He leaves a widow and eight children practically destitute. The gentlemen above named have formed themselves into a temporary committee for the collection of subscriptions, and propose to open an account at a bank in the name of the "William Smyth Memorial Fund." Such a man as William Smyth is a glory to the whole profession, and his death in the prime of manhood in the circumstances related must be counted more truly heroic than a death in battle. Soldiers die for their country in the fierce joy of combat; Will-

iam Smyth died for his fellow men with nothing to cheer him on but the sense of professional duty. We think many of our readers will be glad to help in relieving the needs of those left behind by one of the noblest in the long list of medical heroes who have given their lives for the suffering poor.—*Brit. Med. Jour.*

Proper Age at Which to Send Children to School.—Dr. I. N. Love states that education should begin at eight, and children should not be sent to school until the ninth year. In support of Dr. Love's arguments, Dr. Kershaw, of St. Louis, points out that almost all of America's greatest men were sons of farmers and lived in the country until they were nearly twenty-one years old, most of them doing hard manual labor. When they did take up their studies they had good health, strong bodies and clear brains. Dr. Mary Dodds, the hygienist and principal and supervisor of public schools in St. Louis, states that it is a mistake to send children to school before the ninth year. Eight years should be given to developing a good physical condition and preparing the brain as a storehouse for knowledge.—*Ex.*

The Passing of the Sects.—Evolution is inexorable. Homeopathy has contributed its mite to medical knowledge, but modern medicine is catholic, and has no time to discuss speculative theories of treatment. The physician of the twentieth century carefully studies his case, exactly to determine the nature of the existing disease. His therapeutic methods are simple, embraced largely in measures that may be called hygienic, and drugs are employed only to meet certain definite indications. None have been more ready practically to recognize this change than the homeopaths themselves. Among the younger generation of homeopaths is a large proportion of shrewd men who early recognize the hampering limitations of any exclusive theory of therapeutics. And so to-day we find the homeopaths buying text-books of therapeutics, and prescribing all the remedies in the *materia medica*. The accident of their education, determined by the suggestion of some friend or relative, gives them a distinctive name, which has a certain practical value, but there, to-day, ends much of the distinction between a homeopath and a practitioner of medicine. Numbers of them are possessed of the real moral courage required legally to abandon their distinctive name and secure a degree from a regular medical college.—*Clev. Jour. of Med.*

Pearls.—However useful pearls may be in the treatment of various feminine neuroses and in soothing those angry passions which lead to "nerve storms" of various descriptions, it is not because of their therapeutic efficacy that we refer to them at this moment so much as to draw attention to certain researches which have recently been made by a French naturalist, M. Raphael Dubois, in regard to their origin. It appears, according to his investigations, that the pearl-bearing mollusks are liable to be infested with minute distomata, marine worms which, during a particular stage of their growth, become encysted in a complete calcareous envelope, which is in fact a young pearl. At this stage the worm can be discovered by decalcifying the pearl with dilute hydrochloric acid. The young pearl is, in fact, a protection to the worm much as the cocoon is to the silkworm, and there is this further analogy between them, that as the silkworm moth destroys the cocoon in making its escape, so when the time arrives for the pearl-worm, if one may so

call it, to move its quarters, the pearl loses its polish, decays and falls to pieces, while the worm escapes and fulfils its destiny, whatever that may be. But supposing the worm should die, then quite another series of events takes place. The little pearl does not dissolve. On the contrary, the calcareous deposit continues to grow, and if the mollusk should live long enough, layer after layer is laid on until we get a real pearl, often a pearl of great price, as we discover to our cost when we pay a visit to the jeweller's. Still, after all, this beautiful jewel is but the coffin of a worm. Its success as a pearl comes from its failure as a parasite.—*The Hospital.*

Bad Arms.—It is hardly to be doubted that vaccination is being seriously discredited by the prevalence of "bad arms." Not only does the treatment of these unfortunate results become a considerable item in the daily work of many practitioners, but the more or less futile attempts to soothe the ruffled feelings of his disgusted patients becomes in some cases a very serious tax upon the doctor's time as well as, perhaps, upon his inventive faculties. It is one of the penalties we pay for having popularized medicine. Patients nowadays think they know all about germs and antiseptics, and at least they know sufficient to ask some very awkward questions. When a man who has his living to earn finds himself, as a result of re-vaccination, not only rendered very uncomfortable but to a large extent incapacitated—with his arm in a sling, swollen, inflamed and useless—he is apt to say at once, and with no small emphasis, that the fault must lie between the doctor and the lymph; and as we none of us like to take blame upon ourselves while we can hardly dispute the logic of his position we are afraid that it too often happens that the onus is thrown upon the vaccine. This may be right or it may be wrong, but anyway the effect is the same, namely, to discredit vaccination. What we now speak of is not merely an affair between doctor and patient. In every place where men and women congregate we hear the same thing discussed. "Bad arms" and how to avoid them are universal topics of conversation, and it is hardly to be wondered at that certain ingenuous people who go in for short views of things avoid them by the simple plan of avoiding vaccination altogether. There is no doubt that the publicity given to the possession of a "bad arm" by sling, by tapes, and by general grumbling, throws great difficulty in the way of controlling the spread of smallpox, and that it would be worth much to be able to do secondary vaccination with some thing like assured confidence that one would not cripple one's patient.—*Hospital.*

Phthisiophobia.—It is only avoidable neglect that makes the presence of consumptives in any way dangerous to a community, and it is a reflection on our civilization and on our intelligence that such rules are enacted as those reported from Liberty, New York. The present tendency to silly panic over the dangers of consumption will, of course, have its brief day; it will die out as it did nearly a century ago in Southern Europe, where its uselessness was demonstrated, but in the meantime it has added to the sum of needless human misery. The medical profession is largely responsible for its existence and should now do all it can to end it, not in neglecting reasonable measures of precaution, but in counteracting the unreasonable apprehensions of the laity which have been unwittingly aroused.—*Jour. Am. Med. Assoc.*

Miscellany

Now instructive, now amusing—but always interesting
and worth reading

THE CALF-PATH.—

One day through the primeval wood
A calf walked home, as good calves should;
But made a trail all bent askew,
A crooked trail, as all calves do.
Since then two hundred years have fled,
And, I infer, the calf is dead.
But still he left behind his trail
And thereby hangs a moral tale.
The trail was taken up next day
By a lone dog that passed that way,
And then a wise bell-wether sheep
Pursued the trail, o'er vale and steep,
And drew the flock behind him, too
As good bell-wethers always do.
And from that day o'er hill and glade,
Through those old woods a path was made,
And many men wound in and out,
And dodged and turned and bent about,
And uttered words of righteous wrath,
Because 'twas such a crooked path;
But still they followed—do not laugh—
The first migration of that calf,
And through this winding woodway stalked,
Because he wobbled when he walked.
This forest path became a lane,
That bent and turned and turned again,
This crooked lane became a road
Where many a poor horse with his load,
Toiled on beneath the burning sun,
And traveled some three miles in one,
And thus a century and a half
They trod the footsteps of that calf.
The years passed on in swift fleet,
The road became a village street;
And this, before a man were aware,
A city's crowded thoroughfare,
And soon a central street was this,
Of a renowned metropolis.
And men two centuries and a half
Trod in the footsteps of that calf;
Each day a hundred thousand rout
Followed the zig-zag calf about
And o'er his crooked journey went
The traffic of a continent,
A hundred thousand men were led
By one calf near three centuries dead.

—Walter Sam Foss.

PERSIA AND HER DOCTORS.—Of the many nations of which we read in history, Persia is one of the oldest. The Egyptians, with their Pharaoh, giant pyramids and undecaying mummies; the Babylonians, with their Nebuchadnezzar, and magnificent hanging gardens; the Greeks, with their Alexander and philosophers; Rome, with her Cicero and Caesars—all these mighty powers have passed away, but Persia still occupies the same position that it did many years ago. The readers of history cannot but remember of the Persian wars with the Greeks, how they were defeated by Alexander the Great, and yet regained their power. Again, about the seventh century their power extended as far as Spain under the Saracen name when they were defeated by Charles Martel, since which time their territory has been on the decrease. They belong to the Aryan family and are followers of Zoroaster. The old Persians never gave themselves any other title than "Aryavo Dangahavo (Aryan Races). On Darius'

monument is inscribed, "Darius a Persian, son of a Persian, an Aryan of the Aryan race." The natives claim even now, and are acknowledged to be descendants of the Aryan race. The Persians, like all nations of the world from primitive to modern times, civilized or uncivilized, have had their doctors, and their modes of healing.

Persian medical science has been a combination of four other systems: that of Egypt, with her witch doctors; the Jews, with their sacrifices to God and gospel of cleanliness; Grecians, with their ointments and temple hospitals; and that of the Chaldeans, with their faith cure.

Cambyzes and Darius brought physicians from Egypt, Xerxes from Greece and Cyrus from Babylon. To-day the practice of medicine in Persia is the same as it was twenty-five centuries ago (only in the stage of its decay), and not only medicine remains the same, but language, habits, life, everything, the same. If an American could be suddenly transferred from his home to the land of Persia, he would surely feel that history has turned back in its course and that he was contemporary with the grand-children of Noah. "The land of the sacred Ganges, wreathed in poesy and rich in gods and temples, bred in the earliest ages a highly cultured people, who, even in hoary antiquity, had already made large strides in medicine, and attained a grade of scientific knowledge beyond which they have never since advanced."

To make you acquainted with medical science in Persia, I will give you a few of the prescriptions and describe the treatment we use. There are in Persia specialists as well as in America, so we will visit some of them.

In a warm, dry season you will find ten per cent. of the people are troubled with ophthalmia. There are only two good oculists in the city of Urmia, which has a population of over 100,000, and counting small towns around will be over 300,000 inhabitants. Now for one of the doctors: Mashadi Zabar Khanum, a lady oculist; her home as well as any other Persian home is constructed upon a plan of secrecy; no windows are visible from the street, but the interior is constructed of several courts with lovely gardens, shrubbery and even luxuriant groves of fruit and shade trees, which are supplied with fountains of water, of all which one obtains not a slightest hint from the street. Now we enter the court, then we must wait until our turn comes, as there are already fifty or a hundred patients waiting for treatment. Mashady-Zabar-Khanum is seated near the fountain on a nice soft cushion, and each patient in turn lies down and puts his or her head on the doctor's left knee. The doctor has several folded papers containing a variety of medicines of her own make; she takes a little pinch of medicine and sprinkles the eyelids and in a few seconds he is up and another down.

Next is a lady with granulated eyelids. The doctor will put the lid between two round sticks of her own make also, and will roll them over and over until the desired effect is produced. Again, you will see a lady with inverted lids. The doctor will take hold of a portion of the loose skin of the lid and tie a section, $\frac{1}{8}$ to $\frac{1}{4}$ of an inch, between two sticks; the part becomes withered, and in a few days the shortness of the lid is produced.

Now then we will leave the court and make our way towards the home of Doctor Haroon, a leading surgeon and physician in that city. Every day there are over two or three hundred patients visit him; some may wait for days before they will have an opportunity to be attended, except in

(Continued on p. xiv)

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Ridgefield, N. J.

(Continued from p. XII)

emergency. He has only three or four home-made knives, and uses no needles, does not make any difference how large the wound may be, not a stitch is taken, so all his wounds are healed by second intention (granulation). Now there comes a fellow with a large cut on his arm and suffering great pain. Doctor will tell him to go to the fountain and wash it clean, then he puts some medicine on it and then bandages it with a handkerchief, and tells him to call to-morrow. When next day he returns there may be pus formation, and as to treatment that will be the same. The result is, a large per cent. die. If you tell him his patient has died, well he will say it was the will of the Almighty to be so. (They believe in foreordination.)

Again, you will see a man with malarial fever taken to a Chaldean priest to be cured. The priest reads lots of ceremonies and ties a cotton string on the patient's wrist and tells him to call again if he does not get well. There comes another lady troubled with tuberculosis. To her the priest will write two prayers; one she has to hang on her neck and the other she has to put in water and rub over and over until the water is kind of black, then drink it.

There is another doctor called to see a patient, so he orders cabbage soup. In a few days he calls again, and to his surprise finds the patient up and well. Now he has found a wonderful remedy, so he is going to use it. His next patient is typhoid, and the prescription he gives is 'cabbage soup, five bowls a day. He calls again the next day and finds the patient dead. Well, he says, I don't see why some medicine kills one while it cures another.

Again, you will see people stricken with paralysis taken to the temples and the priest prays for them and lights an extra candle, and tells them they must give lots of sacrifices.

Some prescriptions of our famous doctors: Treatment for gastritis—R. Strong vinegar, pints III. Sig. One pint every six hours.

In pneumonia, they use cupping on the neck and head, bleeding first days and often branding. In jaundice, frightening, making the patient go around the fireplace seven times a day, and bleeding. In case of measles, smallpox, etc., keep them warm, tie up their hands to prevent scratching. In diphtheria, press the tonsils hard with index finger once every evening for three or four days and keep neck warm. In case of hemorrhage, if large, dip the part in boiling oil or water; if small, cover the part with either spider web or a fine dust.

There are no medical schools in Persia, so medicine must be learned in other ways. Now let me give you a few facts. A man with a sore arm goes to a physician and remains under treatment for five or six weeks, at the end of which time he begins the practice of medicine. A woman goes to a doctor and remains under treatment two or three weeks and comes back a full-fledged M.D. But as a rule the profession of a man has descended to him from his ancestors for many hundred years, and people are known through their profession. As Shahbaz, the carpenter; Agajan, the merchant; Sahag, the goldsmith, etc.

Now then, a few words about the Shrines which cure certain ailments. Some are as old as sixteen and seventeen centuries, and most of them are built on the mountains, as Mar-Shelluda, Mar-Geryagus. Mar-Sargis, from where I have received my name, is on the mountain of Sier, about fifteen miles west of Oroomiah City, the home of the author. After climbing rough moun-

tains we will reach a little village; on the west side of the village, on the mountain side, is the shrine. It was built A. D. 600, in honor of St. Sargis, who cast out devils in his lifetime, so all kinds of insane people are brought here. The shrine is a large building with stone walls, roof and floor, and is divided in two apartments; each has but one window two feet high and one wide, and one door which leads to the first apartment is about five feet high and three feet wide. The home for the insane is situated in the second room on the northwest corner. A narrow door leads downstairs. In a crouching position you may be able to enter there; the room is dark; there are no windows, and light is brought into this room. The highest point is six feet, the widest about six and a half feet. It may be a comfortable grave for the dead, but a poor hospital for the living. Here are brought insane people from all over the country, and after leaving the insane in this place they roll a large stone against the door so there is no way of escape. He will be left there entirely alone two or three days, at the end of which time they either become cured or die. They imagine while the insane are confined in this place, the saint comes and touches them, curing them. In case they die (as about 98 per cent. do), they say the saint must have been out visiting some of his other shrines.

This is the only kind of an insane asylum in Persia, and there are over 1,500 towns, only twelve of which have educated physicians. The cities of Mash-had, Shiraz, Tabreez, Ispahan and Teheran each has over 250,000 inhabitants; only about twenty educated physicians. Patients are brought for hundreds of miles distant, the greater part of whom die on the journey from privation and hardships, and are buried by the wayside. A few reach doctors in time to be helped; their joy and gratitude no language can express, and they go away with wonderful accounts. There is no spot more in need of medicine than Persia with her 10,000,000 people.

As I have completed my course in medicine, I hope soon to return and do good to my fellow countrymen in the practice of the healing art.

Yacob Allahverdy Sargis, M.D., Oroomiah, Persia (at present Interne at Protestant Hospital, Columbus, Ohio.)—*Columbus Med. Jour.*

EMBALMED MILK.—

The cows the long hot afternoon
Chewed cuds beneath the trees,
Switching their tails to scare the flies
That tickled rump and knees.
Their udders full of lacteal juice,
They for some milkmaid sighed,
And cared not for the dairyman
Who used formaldehyde.

The dairyman, who saved on ice
And hated chemists' skill,
Diluting water with the milk
That made most children ill,
Turned now to boric acid
And said with glowing pride,
"I'll put this in my dirty cans,
And drop formaldehyde."

—*Cincinnati Lancet-Clinic.*

MUSICAL PHENOMENON.—Paris at this moment possesses a real phenomenon, in a young Hungarian, aged eleven years, named Liszt. This child already displays talents of the first order as a pianist; but the execution of young Liszt is not only distinguished for rapidity of fingering, which is what is admired in a number of performers; he unites to a perfection of lightness and firmness of

hand, an expression which has been wanting in other performers, whose reputation is, nevertheless, very high. This, however, is what is least astonishing in the talents of this extraordinary child. He composes in the style of the greatest masters, and he improves on lessons given him with a facility so much the more marvelous as the force and grace of ideas never fail him. Since Mozart, who astonished several Courts of Europe at the age of eight years, the musical world has certainly witnessed nothing so surprising as young Liszt. We must not forget to notice a characteristic feature, which completes his fame as a real prodigy, which is, that having only recently begun to learn the French language, he already expresses himself in it with a distinctness and sometimes with an elegance which would do credit to many youths of sixteen or eighteen years of age.—*Lancet* (Dec. 28, 1823).

ELIJAH II.—

To most of us there comes a time
When life seems all a tangled maze,
And we would draw aside the veil
That hides the future from our gaze.

I think had poor Elijah known
(That prophet whom the Scriptures laud)
That he must visit earth again
In guise of a colossal fraud;

If he had known beyond a doubt,
That in some future earthly state,
He who had mocked the priests of Baal
Would utter vilest Billingsgate;

A flowing mantle covering up
A cunning, greedy, sly old fox
Arrayed in broadcloth swallow-tail,
Ranting against the Orthodox;

If he had known the day would come
When he who suffered cold and fright,
Would gaze unmoved on pain and death
And fatten on the widow's mite;

When at the brook the ravens came
And laid their offerings at his feet,
When sleeping in the wilderness,
Heard the voice "Arise and eat;"

If he had known that he on earth
Would reign, like those of royal rank,
By force of power a millionaire,
Sole owner of a pirate bank—

If poor Elijah had but guessed
This direful punishment in store,
He would have prayed to be allowed
To die for good and live no more.

—Helen Beard, *Chicago Clinic*.

THE LATE AMIR OF AFGHANISTAN.—The report of the Amir's death has been officially confirmed; one may therefore accept it as true. So many times has his death been reported that one hesitated to accept the news as final till the official confirmation arrived. It is not that his death is an unexpected occurrence, but the news has been expected for so many years that one marvels that he has lived so long. I remember the last time I had the honor of attending His Highness during an illness, and I placed (in my own mind) his probable duration of life at two years; this was in 1890. I will endeavor to describe the condition that I found him in.

It was late one night in the autumn of 1890 that I was summoned hastily to the palace. There was a hammering at the gates of my courtyard which woke me, and immediately a servant came running to my room saying, "Up, Amir Sahib

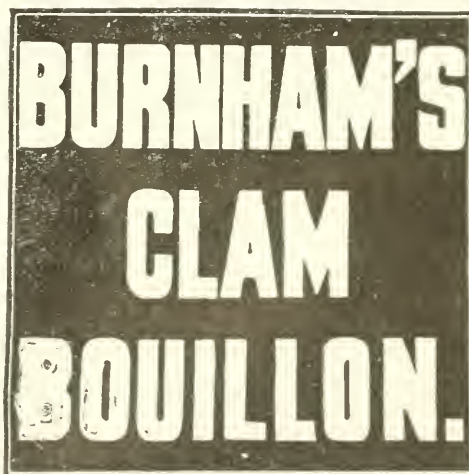
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calls." One does not linger on these occasions. I found my horse saddled and bridled at the gate, and accompanied by the two horsemen who called me I rode off through the bazaars. The gleam of the occasional oil-lamp in the rain puddles made the darkness visible. Presently a clatter of hoofs showed my interpreter hurrying after us. This was satisfactory; for the two men might have been playing the part of "the Thing that walks by night," in which case I should not have been seen again. This happens at intervals in Kabul. We reached the palace, and leaving our horses at the gate hurried through the gardens to the Amir's pavilion.

I found His Highness lying on a couch, rolling his head from side to side and groaning. Malek, the favorite page-boy, was rubbing the right knee. The room was brilliantly lit with candles and around were kneeling Prince Habibullah and his brother and the chief officers of State. Receiving the Amir's command, I proceeded to examine into his condition. The right shoulder, elbow, wrist, and knee were swollen, red, and very painful. Every few minutes he was passing a few drops of scalding urine, his breathing was hurried, and his pulse quick and weak. His throat was sore and inflamed. There was a crepitant patch on the left axillary line. The heart was somewhat enlarged, but I heard no murmur. His temperature, to the best of my recollection (for I am writing without notes), was 102.4° F. His urine was loaded with albumin and he had not slept for days. But this was not all. It appears that he had been ill for some weeks under the care of hakims. He had been treated with many violent purges, much leeching, and copious bleedings, and his gouty foot had been frequently plunged into ice-and-water to relieve the pain. Altogether his condition appeared to me serious—more than a little serious, for I was informed by those friendly to me that my life depended on his. I therefore considered what I should do. A lamp was brought and with a page-boy—the foster-brother of Prince Habibullah—I went to the hospital to get what drugs I needed. These were given into the charge of the lad. He was in future to be responsible for them and to give them out only to me.

To be brief, I gave His Highness diaphoretics with salicylate of potash, which I made fresh for every dose. His Highness, after the Mahomedan custom, uttered a short prayer before he took the first dose. I did also. The medicine had a most satisfactory effect in relieving the pain and procuring sleep. The improvement being so obvious it was interesting to note the delight of all, from prince to page-boy. I have a sheaf of letters of congratulation to me from the Sultana and Prince Habibullah, to whom I had every morning to send a report. The politeness and distinction with which I was treated by everyone may be imagined. But this was not the end. Towards the end of the week I gradually dropped the use of salicylate on account of its depressing effect and one night there was some return of pain.

There was a person at the Court—a Hindustani—who was unfriendly to me and he seized this opportunity of whispering to the Amir what he could that would prejudice me with His Highness, saying that I was giving him "shrab" in all his medicines which must inevitably make him worse in the end, and so on. The Amir was weak with long suffering—he had had a return of pain—and he believed this person. I was informed in the morning, five days after I took the case in hand, that my treatment would be suspended for

the present. The hakims were reinstated. What can one do under circumstances so exasperating? The hakims knew no medicine or pathology; they were again in charge of a life on which mine hung and they were likely to terminate it. Reasoning would have no effect; my statements would not appeal to the Oriental mind. I decided, therefore, to accept the inevitable, but I thought that I would shoot that interfering person who was my enemy. I said so; and he kept out of my way. His interpreter, however, told me that I should lose caste by shooting one of low degree. I, of course, would not have shot him—one does not do such things in cold blood. At this time the Sultana was taken ill and I had the Amir's order to attend her in the harem serai. From Her Highness and the page Malek I heard how it was that I had been suspended.

To cut a long story short—for even now I do not care to recall too vividly to my recollection the anxious weeks that followed—His Highness, after a period of considerable danger and suffering, during which I was allowed to watch his progress daily, made a tedious recovery, and I was permitted to return home on leave for some months bearing with me a substantial token of the Amir's goodwill.

I read that Prince Habibullah has the arsenal and treasury, and consequently the power, in his hands. It is a blessed thing for Afghanistan if it is so, and for England too, so far as I can judge. The death of the Commander-in-Chief, Gholam Hyder Khan, deprives the Sultana of her greatest supporter, so that the probability of a revolution in favor of her young son, Prince Mahomed Omer (who is Royal on both sides), is vastly lessened. This lady, however, is a source of probable danger to the peace of Afghanistan—that is, if she is still living.

Habibullah always struck me as a good fellow—intelligent, well-mannered, and distinctly favoring the English. He was learning English when I was in Kabul and could speak a little even then. He seemed a milder and smaller copy of the able, courteous, chivalrous, crafty, and fierce Prince, his father, whose strong personality had such a glamor that he attracted not only the respect, but even the affection, of us who were in his service. I have the recollection of many great kindnesses from my late Royal master (and of some injustices), and I wish his son the Prince Habibullah every success for the sake of his country and ours in the difficult and dangerous task before him.—John Alfred Gray, M.B. Lond., in *The Lancet*.

A FRECKLE DESTROYER.—The fact that freckles are the usual penalty exacted by nature for the bestowal of a delicate complexion in no way compensates any daughter of Eve for their unwelcome presence. The poetess may call them "the kisses of Apollo," but she prefers to dispense with the attentions of the sun god. Probably the least offensive and disfiguring of all skin blemishes, they are the most obstinate in resisting removal. Dermatologists have tried in vain to compound a remedy which should be a permanent cure. It has yet to be found. True, freckles may be bleached, even removed in many cases, after persistent treatment, but with the advent of the warm spring days and summer winds they are very apt to reappear. The girl inclined to freckle, who yet justly refuses to be housed when sun, sky and sea woo her, has on hand a perpetual problem. Freckles are divided into two classes, cold or constitutional freckles, and summer or light freckles. The latter fade gradually or yield

(Continued on p. xviii)

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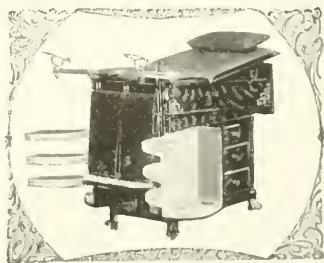
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for a time at least, to mild lotions. The former require almost heroic treatment, which then frequently brings disappointment. It is impossible truthfully to guarantee "a freckle cure." The very situation of the freckle—below the surface—offers an obstacle. One difficulty in the way of their removal lies in the wide difference in the texture of different skins. A freckle lotion that will have no effect upon one complexion will irritate and blister another. The chief ingredient which enters into many freckle lotions is an acid, which will bleach the spots when it reaches them. It must usually have something to draw them nearer to the surface. Ordinary massage of the face will do this gradually, and, by promoting the activity of the skin, in a manner prevent the small deposits of iron. Good facial circulation is a foe to most facial blemishes. The commonest acid and the most effective is lemon juice, pure or diluted, as the skin dictates.—*Indian Lancet*.

A STAY OF PROCEEDINGS.—A lady physician in Denver recently entered proceedings against the surgeon who set her broken leg, because one limb was shorter than the other. A feature of the court proceedings is described by a local "poet," in the following lines:

"Order in the court! Of proceedings grant a stay,
A picture must be taken and taken right away."
The lady flushed a rosy red, the jury all turned quick,
And the kodak man he kodaked 'ere any one could think.

The case it was a lengthy one, and waxed an awful lore;
The lady took her shoe off and stood upon the floor,
To show the jury plainly so that every one could see
That one leg was much shorter than it really ought to be.

The lady had been X-rayed a time or two before.
The doctors said it wouldn't do, they must be showed some more,
And then she shed her stockings, and fainted dead away
When the fiend pressed the button on his kodak yestervay.

The doctors all enjoyed it; the judge and jury smiled,
The lady may be pardoned if her looks were fierce and wild;
And doctors, judge and jury hummed an ancient memory—
"One of his legs was longer than it really ought to be."
—*Mcd. Standard*.

A MATERIAL AGE.—For all who love ceremony this is a sad age. The hurry of modern life leaves no time for all those stately courtesies and dignified rituals that adorned the "spacious days" of our forefathers. In our own profession at this time of the year the decay of all such decorative proceedings is particularly impressed upon our minds by the fading custom of introductory addresses at the medical schools. Even these ceremonials, of no great antiquity and originally of obvious worth and purport, are gradually being condemned as too ponderous for the spirit of the age. The student, though only at the beginning

of his career, must not be asked to sit still for an hour while a wise man discourses in a general fashion upon the profession in which he is distinguished and in which his hearers hope to become so. Introductory addresses are being pushed out of the lecture theatre of the medical schools as classics are out of the class-rooms of the public schools. As a result of the wide competition and the ever-growing accumulations of knowledge in every profession—nay, in every branch of every profession—there is no time or place to-day for the superfluous. We are all perforce utilitarians and can only spare attention for that which directly furthers our particular aims.

Time and money, how to save the one and to make the other—these are the ruling questions of modern life. The average man is in a fair way to forget that there are other things worth considering; and only the very wise or the very wealthy care to be lavish of time and to forfeit money in the pursuit of learning, peaceful and unremunerative, undertaken simply for its own sake and the sake of sound knowledge to be acquired. Nowadays everything must move fast and must have a direct purpose. The altered manner is apparent in all the affairs of life. Starting with one old custom which used to mark what is often the first important epoch in a man's life—the wedding-breakfast—we can see a general disappearance of all grave and stately, if perhaps tedious, formalities. Weddings to-day are unaccompanied by breakfast. It is more to the point to encourage some proceeding by which more friends can be accommodated at a less cost of time and of money. To consider the relative comfort of your guests is no part of the modern programme, so a couple of hundred guests and relatives are crowded for a few hot, jostling, champagne-sipping moments into a room where a quarter as many of their grandparents would have solidly enjoyed themselves for a couple of hours. Conversation as a formal proceeding we have long dispensed with, and the vapid inanities of the fleeting "at home" replace the solemn speeches, the weighty toasts, and the cheerful dialogue of the wedding-breakfast.

There is no department of affairs perhaps in which this general change of manner is more apparent than in the personal conduct of medical matters. The very idea of a "doctor" in earlier days conjured up the notions of deliberation, gravity, and a solemn and formal procedure. To-day we picture him rather as a brisk man, of keen eye and few words. We have no hesitation in declaring our practical modern methods to be as much to the patient's advantage as they are to that of the medical man, but the contrast is none the less marked. Then, he would begin his visit by formal, possibly learned, conversation, and terminate it with rounded periods of hope or grave expressions of anxiety confided to the relatives; now he sees his patient on his arrival, has a few words with the nurse, and jumps on to a bicycle. He is summoned by a telegram, prescribes through the telephone and arrives in a motor-car. The old-fashioned medical man was in nothing more precise than in the fashion of his dress. To have visited a patient in anything but his most formal costume would have shocked his own sense of propriety and would have given the patient serious misgivings as to the correct professional standing of his medical attendant. It is a part of the general change of manners that gives medical men to-day a far wider freedom in this matter. The world takes nowadays a more liberal-minded view of these minor questions. The practical convenience necessitated by modern

conditions prescribes behavior. At a time when ladies ride bicycles and smoke cigarettes and when a Royal Princess has satisfied her curiosity and spirit of adventure by traveling outside an omnibus, who will ask the medical man to restrict himself to the frock-coat of rigorous professional propriety? Opinion is more sensible and untrammelled than it used to be, and it is recognized that a man may be an active surgeon or a careful physician even if his coat has no tails to it. In the country, perhaps, professional costume was always more or less adapted to climate and to locomotion. The country doctor did not ride in the faultless attire of his town brother or drive in such "correct" apparel as the latter habitually wore. Now, however, the considerations of practical convenience are allowed full play in towns too, and, as the season demands, the short-coated suit and the straw hat are not altogether tabooed. It is right, however, that a medical man should always be careful and quiet in the manner of his dress. He must not allow flashiness to play a part in his costume, and our younger readers will do well to remember that though a freedom is theirs now which was denied to their fathers, still it behooves them to see that they dress strictly as gentlemen should. Better the inconvenient staid limitations of a black frock coat than that a suit only fitted for the racecourse should be worn at the bedside. Even in such comparatively small matters as dress wider opportunities entail proportional responsibility, and the young practitioner of to-day must not forget that Polonius's advice in the matter of costume is as worthy to be followed now as it has been for the last 300 years.—*Lancet*.

THE FACE THAT CHANGES NOT.—

Ah, me, full many a year has flown—
Two decades if a day—
Since first I saw that face, and I,
Alas! am growing gray
And bald; and yet, as dense and dark
As then, its crown of hair
Surmounts that face which shows no trace
Of trouble, time nor care.

No cruel crow's-feet mark the eyes
I gaze upon thro' "specs;"
And lo, the smile, the selfsame smile,
That countenance bedecks
That met my roving glance lang syne!
The cheeks are dimpled still.
The teeth intact, O 'tis a fact.
Time's conquests here are nil!

Here naught's surrendered to the years.
Nor tithe nor tribute paid:
My best beloved's early bloom
Long years ago did fade;
And still untouched by time I see—
While I grow old and sad—
That smiling face in its old place
On a cosmetic ad.

—M. N. B., in *Boston Globe*.

AN EFFECTIVE PRESCRIPTION.—Two Deacons of the same church were of different political faiths. Politics waxed warm in the little town where both made their home, and so, although they spoke when they met, as Christian brothers should, they never had much to do with each other. One day Deacon Smith's horse fell ill, and hearing that Deacon Brown's horse was troubled with a like malady, Smith approached Brown, and, after the customary short "Good morning"

remarked: "My horse is sick; what shall I do for him?"

Deacon Brown responded: "Give him a pint of turpentine."

They passed on, and the next morning Deacon Smith on meeting Deacon Brown remarked:

"My horse died last night."

"So did mine," said Deacon Brown. "Good morning!"—*Diet. Hyg. Gaz.*

MANHATTAN will be a most beautiful town
When the houses are up and the pavements are
down;

But we never know now, when we breakfast or
sup,

Which house is torn down or which street is torn
up.

As we gaze at the scaffolding up in the sky,

We fall in the subway conveniently by;

We trip o'er the pavement in more ways than one

As we dream of the day when New York will be
done.

We tremble sometimes as we go to our beds

Lest ere morning the roof cease from over our
heads.

The workmen are banging all over the town

Yet the houses won't stay up, the streets won't
stay down;

And until a kind Fate in relenting decrees it,

It's a wise man that knows his own street when
he sees it!—*Med. Mirror*.

PECULIAR METHODS OF SUICIDE.—The subject of suicide presents many points of interest from a psychological standpoint. The question of whether or no the deceased was insane naturally stands foremost, but we do not intend to discuss this matter now; suffice it to say that there is a growing tendency for a coroner's jury to return a verdict of "Suicide during temporary insanity" rather than one of "*Felo de se*." In some instances there seems to have been a condition allied to "double consciousness," the person being sane shortly before and shortly after the act and yet unable to remember anything concerning the attempt on his life. For instance, a young woman jumped from the suspension bridge at Clifton and fell about 300 feet; her clothes acted as a sort of parachute and she was picked up alive and none the worse for the fall except for a few bruises. On being questioned she stated that she remembered nothing of her actions for some hours before she walked to the bridge and until she found herself in the infirmary. In other cases the act has apparently been due to some sudden, irresistible impulse for which no reason can be given.

It is well known that an insane person bent on taking his life will often adopt strange ways of carrying out the act and will wait an opportunity of adopting the measure which he has decided upon; thus a man has been known to swim across a river in order to throw himself under a train. Occasionally, however, most extraordinary methods have been chosen. In *The Lancet* of Sept. 14, 1901, we published a case of suicide in which the wounds were inflicted in the back of the neck, and in our issue of Sept. 28th, p. 876, we were reminded that we had described two similar cases some years before. More than one case is on record in which the entire larynx had been self-removed. One of the most extraordinary cases of this kind was recorded in the *Boston Medical and Surgical Journal* some 20 years ago, in which a man determined to guillotine himself. He constructed an apparatus by

which a heavy axe-blade was held in place by a can of water. In the bottom of the can was a hole which allowed the water to run slowly out and when a certain amount had escaped the axe-blade was liberated. The operator laid his head on some support, so that the axe would strike him on the neck, and placed a dish of ether in such a position that he would inhale it and so become unconscious before he was decapitated. The axe fell as he had intended. A strange attempt at suicide has been much quoted from our columns. A man placed the point of a dagger against the skull in the frontal region and then drove it into his brain by a blow from a mallet. The blade, which was four inches long, was driven in up to the hilt; but assistance came on the scene and the dagger was ultimately removed, the patient making a perfect recovery. A still more peculiar method of self-destruction was adopted by a man whose case was recorded in the *Medical Times and Gazette* in 1878. A man drove into his head two stone-chisels, each being eight and a quarter inches long and three-eighths of an inch in diameter, using for the purpose a wooden mallet weighing $2\frac{3}{8}$ pounds. One of the chisels was driven through the head from right to left, entering in the right temporal region and emerging in the left nearly in a direct line; the other chisel was driven into the centre of the forehead, penetrating half an inch into the frontal lobe. After inflicting the injuries the man approached a glass door, through which he was seen by two persons. He tried to open the door but failed. When the door was broken open he walked a distance of 40 feet with but little aid, and was able to talk. The chisels were withdrawn with much difficulty and he died about five hours afterwards. In a case recorded in the *British Medical Journal* in 1881 by Mr. A. D. H. Leadman a man committed suicide by placing a dynamite cartridge in his mouth, lighting the fuse, and then awaiting the explosion. Great injury to the surrounding parts naturally ensued, but nevertheless the man lived two hours.

Drowning is a mode of suicide frequently resorted to both by men and women, but the mode of carrying out the act does not always consist in simply jumping or walking into the water. A case was recorded in *The Lancet* of Sept. 1st, 1877, in which drowning was accomplished by simply plunging the head into a basin of soup, and in another instance a woman broke the ice on a pond, thrust her head through the hole, and so perished. Drowning may take place in quite shallow water. In many such cases death has been the result of accident, but Dr. Nixon Mann from his experiences considers that it is usually suicidal.

Although homicide is very frequently committed by throttling with the hands suicide in this way is, of course, exceedingly rare. A case, however, was recorded in the *Zeitschrift für medicinische Beamtete* of a woman, aged 40 years, who suffered from melancholia and who had previously made several attempts to commit suicide. She was found dead crouched in her bed with both hands compressing the throat; death had undoubtedly ensued from throttling. Death from strangulation by hanging is common, but sometimes a noose is used in a different way, the active strength of the suicide supplying the force that is usually supplied by his passive weight. An insane patient, upon whom Professor Bollinger performed a necropsy, had succeeded in ending his life by strangulation of this sort. The body was found lying on the back with the right foot pressed against a bedpost. Round the neck was a loop-knot made of a bed-sheet torn in two, one

end of which was attached to one of the bedposts. The deceased by pressing his foot against the opposite post had drawn the noose tight and so maintained it, thus bringing about strangulation.

Suicides occasionally select particularly painful means of ending their lives. For instance, in a case related by Mr. L. E. W. Stephens in the *Bristol Medico-Chirurgical Journal*, 1888, a man suffering from melancholia was seen with a red-hot iron rod about two feet in length, the cool end of which was against the wall and the heated end against his abdomen. He was interrupted in this attempt but not long afterwards he made the iron white-hot and succeeded in thrusting it four or five inches into the abdomen. In yet another case the dead body of a man with extensive burns was found lying on an iron bedstead. A burnt candle was beneath the bedstead. From papers in the room it appeared that the man wished to prove that suicides were not cowards, and he had adopted the following awful method of terminating his life in order to prove his theory. He had laid on the bed over the lighted candle, rising from time to time to record his sensations and then resuming his position on the bed. Many cases similar to the above, all of great medico-legal value as demonstrating what suicides may accomplish in the way of inflicting injuries upon themselves, are recorded. On superficial examination homicide may be suspected, whereas other evidence may conclusively prove the case to be one of suicide. Doubtful cases of this kind need 'the greatest care on the part of the examining practitioner, for on his evidence may depend in a great measure the verdict of the jury.—*Lancet*.

SHOULD WE BE VEGETARIANS?—Flesh-eating is a necessary evil among the poorest savages; an ugly and expensive fad of the richest nations. It is usually defended by the following arguments: (1) The animals would overrun us if we did not eat them. Answer: Dogs and horses do not overrun us. The only animal that has overrun man very disastrously of late is one he does eat—the Australian rabbit. (2) Flesh-eating nations are the strongest. Answer: Their addiction to flesh, like their wearing of chimney-pot hats, is an effect of their success and wealth, not a cause of it. (3) A meal of flesh gives a satisfied feeling. Answer: Say rather a stimulated feeling. For flesh when killed contains much urea and other used-up products on their way to be excreted, and these act as stimulants when eaten. (4) Animals eat each other. Answer: They also don't wash, but we wash. Man claims to have improved on Nature in the matter of ethics and refinement. (5) We might kill animals painlessly. Answer: We might, but we don't. (6) Man's teeth are meant for flesh. Answer: Not true. They are like those of apes, and therefore presumably meant for fruit and nuts. (7) The Bible allows flesh. Answer: Yes, "for the hardness of your hearts." Genesis shows a vegetarian Eden; Revelations shows fruit trees as the only food-providers of the New Jerusalem. And between these two are the Old Testament forbidding pork and the New Testament forbidding blood. (8) You must eat meat to fight. The Roman armies were nearly vegetarian, and there are vegetarians in our army and navy now. A vegetarian Spanish bull has beaten both lion and tiger in the arena, and only been beaten by an elephant—a fellow-vegetarian. If Britain grew nuts and apples instead of beef, half the surface would be covered with nut-groves and orchards instead of pasture, and the country would thereby become almost uninhabitable. (9) One can't live on cabbages. Answer: Well, personally, I never

touch cabbages and seldom potatoes. Vegetarians eat much less cabbage than flesh-eaters do. My own staples are nuts (especially monkey-nuts), Hovis bread, apples and oranges, a diet much more substantial than the usual flesh-eaters' dishes, whereof some are sloppy, some tough, and all greasy.—*The Vegetarian Messenger*.

LE CHANT DU TENIA.—

O! I am a jolly tapeworm,
And I live in a gallant man,
Who labors day and night for me
As hard as ever he can.

I gnaw his bowels every day
And fill him full of pain,
'Till like a burning snake he writhes,
And the sweat runs down like rain.

O! I lie in his guts and laugh
To see him work and eat,
'Till he starves his wife and children
To give a tapeworm meat.

The jaws of man make music
That drives me wild with glee,
And I chuckle with joy when I think
How the good God cares for me.

I am only a worm, I know,
And a worm of low degree,
But I bless the Lord with all my heart
For making a man for me.

The Lord is very good to me,
And I thank Him all I can;
But after all I must confess
He's damned hard on my man.

Alas, my happiness is gone,
The gastric juices boil;
½ dram of chloroform
In 4 ounces hot castor oil.

I twisted, turned, and slided down,
And left my cozy bed.
The R had done its work,
Forty-two feet and head.

—*La Revue médicale*.

FAT AS A FACTOR IN POLITICS.—Cæsar wished to have about him men that were fat and slept o' nights; and looked upon those who, like Cassius, had a lean and hungry look as dangerous. The typical Yankee is still, like Coleridge's Ancient Mariner,

Long, and lank, and brown,
As is the ribbed sea sand.

This makes him dangerous to tyrants, and has doubtless had a good deal to do with his success in establishing the greatest democracy of which there is record in history. It may, therefore, be a fact of considerable political import that at least in New York the national type seems to be changing. Some observers of a statistical turn of mind have lately been taking stock of the man in the street as he is seen in New York. Among 1,000 New Yorkers from the age of 20 upwards over 28 per cent. showed an abnormal development in the abdominal region. In a poor quarter the percentage of fat men was about 14, but in Broadway, where the well-to-do most do congregate, it was 35. In the corridors of a high-class residential hotel the number of obese individuals in a total of 100 was 70, while in a humbler caravan-serai the percentage sank to 11, the lowest point

anywhere noted. Altogether, among 1,500 adults taken at random, 447 were corpulent to the degree of deformity, giving an average of 29.8 per cent. Among the effete monarchies of the Old World there is a stream of tendency to fat which may account for the slowness and sleepiness with which we are constantly reproached by our go-ahead cousins on the other side of the Atlantic. Perhaps it is on the principle "who drives fat oxen should himself be fat" that so many European rulers are men of weight as well as authority. From some interesting statistics on this subject that have recently been published, it appears that the King of Portugal is, in one sense, the greatest sovereign in Europe, for though he is short of stature he turns the scale at 13 st. 2 lbs. It would be indelicate, if not indiscreet, to give particulars of the weight of some other exalted personages. It may, however, be noted as an interesting fact that the Reise-Kaiser, whose meteoric appearances in different parts of the globe in rapid succession, with his winged words and impulsive telegrams on all manner of subjects, used to keep the world in a state of what Lord Salisbury (or an ingenious reporter) called "animated expectancy," has for some time past become almost a "heavy father" in the comedy of politics. It is a tempting subject of speculation how far this comparatively reposeful attitude may be dependent on increasing bulk. If Louis XVI had been less protuberant in the paunch he might have kept his head on his shoulders. The leaders of the Revolution were, as may be seen from their portraits, mostly of the Cassius type; it is impossible to conceive a Robespierre or a Marat as fat. Napoleon in his later years became fat, and according to Lord Wolseley this contributed in no small degree to his defeat at Waterloo. Our own sovereigns have for a century and a half been what the love-sick maidens in *Patience* style fleshly men, of full habit, and Beau Brummell called, less æsthetically, "fat;" and it is not unreasonable to believe that this fact has had some influence in preserving our glorious constitution in vigorous vitality amid the crash of falling thrones and crumbling empires. Bismarck at the height of his power had, like Cardinal Wolsey, an "unbounded stomach," which could scarce be kept within reasonable compass by the severe maceration of the flesh enjoined by Professor Schweninger. Had he been fat in his youth, it is more than doubtful whether he would have welded Germany together with blood and iron. Who can tell how far the massiveness of the Prime Minister's bodily frame may have helped to keep the peace of Europe by weighting the pushfulness of leaner politicians? The rôle of fat in political physiology cannot be summed up in a simple formula; but for practical purposes it will be found tolerably safe to assume that thinness makes for revolution and fleshiness for repose, which, expressed in terms of politics, means Conservatism. The ideal demagogue is lean—*tourmenté par son caractère*, as Madame de Staël said Napoleon ought to have been. A man who has a full round belly, with good capon lined, is by the law of his physical being a Conservative, whose principle is *Quæta non movere*, though he may delude himself and others with the fancy that he is a Radical. Those of our American friends who think that the well-being of the United States depends on the maintenance of a Republican form of Government will do well to take steps at once to repress the tendency to abdominal expansion among their citizens, or they may live to see the President transformed into an Emperor.—*Brit. Med. Jour.*

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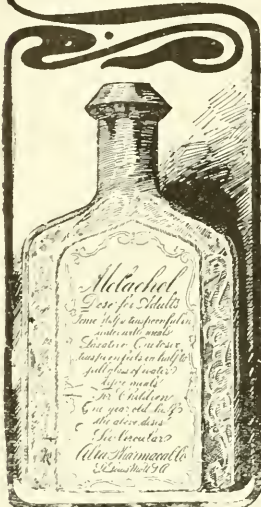
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Tolerance Toward Christian Science, Absent Treatment, and Other Crazes

IF we were asked to name what was, in our opinion, the most precious inheritance left by the Nineteenth Century to its successor, the Twentieth, we would unhesitatingly answer: Tolerance. The great discoveries and inventions of the Nineteenth Century—the steam-engine, the steamboat, the railroad, the telegraph, the telephone, electric light, etc.—have revolutionized the means of production and transportation, and have contributed in a most remarkable manner toward the intellectual development and the material comfort of the human race. But the agency that will contribute more than anything else toward the arrival of the true millennium—by which we mean the era of peaceful and orderly development, when all useless and unnecessary strife will be a half-forgotten memory—is Tolerance.

Those who have not made a study of the history of the Nineteenth Century from that view-point can hardly realize the tremendous difference in this respect between a hundred or even fifty years ago and now. Then, those who held any opinions at all, "held" them in the literal sense of the word, one might say. They would not let go of them on any account, and so absolutely sure were they of being in the right, that they would brook no contradiction, listen to no argument. It was: "Believe as I do or be damned." This was the case in religion, politics, economics, philosophy, medicine, etc. An antagonist was either a fool or a knave; he could not possibly be

anything else; otherwise, how could he differ from us? And this was true not only of the mass of people, of the rabble, but of the thinkers and leaders as well. Exceptions were extremely rare.

What a marvelous change has taken place since! The cocksureness has given way to a kind of uncertainty, hesitation. The questions: "Am I right?" "Am I sure that the thing is so?" flit only too often across the mind of the thinker of the present day, and the thought of the possibility of the other fellow's being in the right and our being in the wrong, prevents us from becoming too arrogantly dogmatic, or too ready to condemn new theories, new ideas which happen to conflict with ours. We repeat what we said at the outset: we consider this one of the most precious possessions of mankind.

But this attitude of mind is a comparatively recent acquisition. It is a reaction against the bigotry and intolerance of former days and, as we pointed out in another editorial, all reactions are apt to run to absurd or dangerous extremes. That's just what has happened to our Tolerance. There is at present a large class of people who are so tolerant as to be utterly intolerable. Those good people will not condemn anything, they will not criticize anything, for fear that the criticized object may after all be in the right, and they in the wrong. No matter how stupid or absurd an idea may be, no matter if a movement may bear

the stamp of fraud and quackery on the very face of it, they will not venture any criticism. With a sweet and saintly smile, they will say: "Oh! but we must not say anything against it! We have no right. Though the thing looks false, still, perhaps it is true." Bear in mind, they don't say: "We must not condemn before investigating." That would be commendable. But they simply refuse to pronounce any judgment, for fear they may be wrong and do somebody an injustice. We wonder whether these tolerancers know what such an attitude amounts to? In our opinion, it amounts simply to this: *That it is absolutely useless to think on any subject whatsoever.* What is the use thinking at all, if we can never know with certainty that we are right, and if the latest conclusions reached by us may just be the wrong ones? **NO**, this is not what tolerance means, and this is not what the great thinkers and emancipators meant when they fought against bigotry and taught us to assume a tolerant attitude toward other people's views. Tolerance means an absence of bias, a readiness and willingness to investigate new ideas, a mind free to change and discard old opinions and open to receive new ones. That's all that tolerance means. But if, after a careful and unbiased investigation, our reason—the only instrument of judgment that we possess—tells us that a certain movement is sheer fraud and humbug; that the ideas it represents are so absurd as to border on insanity; if we find that its leaders mislead, befog, and endanger the lives of the people—then not to criticize and not to expose is clearly to fail in our duty and become guilty of the most culpable negligence.

When a thorough study of the literature, addresses, actions, and doings of the Christian Scientists *convinces* us that their so-called system is a mixture of fraud, stupidity, and insane delusions; when the chief priestess of the cult—who, while preaching her doctrines, has not forgotten to become enormously rich—tells us, for instance, that she *instantly* cured a cancer which had eaten into the flesh to a degree that "the jugular vein stood out like a cord"; when

the literature is found to consist of the most imbecile gibberish, absolutely unintelligible to a rational being; when the reports of their cures prove on examination to be either pure inventions or gross exaggerations (except in cases of functional neuroses); when, in addition to all that, we see that all their healers, from the highest to the lowest, are furiously bent upon making money, and will not distribute any of their comfort or preach any of their truth without a consideration; when we learn that the chief absent-treatment-fakiness—down in Florida, against whom the Post Office officials recently issued a fraud order—obtains \$200 from a man in New York, under a promise to make his shortened leg two inches longer by *thinking* of it; when osteopathy, which is *nothing* but a perfected massage, impudently makes claims as a complete system of medicine, capable of curing the most diverse diseases by external manipulation; when an osteopath claims, for instance, that he can "reduce" typhoid fever (as if it were a dislocation), by pressing upon the seventh cervical vertebra; when we see these mostly illiterate bonesetters knocking at the doors of various legislatures to be admitted to the practice of medicine without proper educational requirements; when we see that the followers of these cults endanger not only their own lives but also the lives of the community by refusing to take any precautions in the infectious diseases; when, what is still worse, innocent little children are allowed to die in agony without any attempt at relief—a child that sustained an extensive burn, and another one that had diphtheria in a most virulent form, were recently prevented from getting medical aid by their Christian Scientist parents, until death freed them from their terrible sufferings—we say, when we see such facts of similar or worse character, then it becomes our duty to assume an unequivocal attitude. We must expose the humbugs and fight the knaves whenever and wherever we can. This must be the attitude of the medical press, of the medical societies as a whole, and of every right-minded physician, as an individual and a citizen.

[Written for MERCK'S ARCHIVES]

THE LAST STAND: PRACTICAL THERAPEUTIC RESOURCES

By Joseph Byrne, A.M., M.D., LL.B., New York City

THAT is a unique position in which the physician finds himself when it first dawns on him in his struggle with disease that the fight is going against him. Few laymen can appreciate his feelings at such a juncture, and the heavy, ever-increasing burden of responsibility which, like a veritable Atlas, he has to shoulder.

Physicians, perhaps more than any other class, find themselves continually engaged in up-hill fights. This is especially true of those who practice among the poorer portion of the community. These physicians are frequently compelled to enter the struggle at a time when there is little or no hope of success, and, with the scantiest means at their disposal, not to mention obstacles interposed by prejudice, superstition, and ignorance, the prospect is enough to make the stoutest heart quail. It is only a man of inner strength and fine character who is capable of "looking and overlooking," and one worthy of his calling that can, under such circumstances, act with justice and put forth the best that is in him. And among people in better circumstances, when the critical moment arrives, when consultations are spoken of and unpleasant whisperings indicate that the well-reposed confidence of years has been shaken, it is hardly to be wondered at if the physician's efforts relax and the patient is left to fight it out alone with indifferent or half-hearted treatment. Nor does the consultant always improve matters. He is apt to give most of his attention to diagnosis and prognosis, and if the latter be not hopeful he may depart, leaving the practitioner under the impression that further effort is useless. The position of the physician from this point on is humiliating. He has to make his regular calls, and yet he does practically nothing for his patient, and what he does is done without heart. It is here that men of courage and ambition find their opportunity, while others sit inert meditating deeply on gloomy prospects. The wise physician never gives up, but is constantly trying, never quite content with what he has done or is doing, always believing he can do better. Such effort brings its reward. The practitioner who *tries* is often surprised at the many things that can be done in cases where at first it seemed there was nothing for him to do but fold his arms ingloriously and let death stalk off unchallenged with his victim.

The one great thing is to keep the patient alive as long as possible while the faintest glimmer of hope remains. The object is to gain time so that specific remedies may have full opportunity to show therapeutic effects; or, in case of our inability to check the disease, then to tide the patient over the time required for it to exhaust itself by running its course.

In order to prolong life the physician must, above all things, watch the great functions of circulation and respiration. To this end two fundamental rules are requisite, viz.:

(a) The avoidance of everything that depresses vital function.

(b) The intelligent use of positive measures calculated to conquer disease and sustain flagging function.

As to the depression of vital function, the physician's conduct claims first consideration. First impressions quite frequently have much to do in turning the tide of battle, sometimes favorably, sometimes the reverse. This happens more noticeably in the case of children who, if handled roughly by the physician or attendant, will refuse to take medicine or take it with a struggle that may be fatal. Such trouble may often be avoided by treating the children kindly from the outset. Something similar happens in older patients who are affected favorably or otherwise by the personality and manners of the physician or attendant, but who are always the better for the healthy, cheerful atmosphere the wise physician creates around him. It is among the poor that we are apt to dispense with our trifling courtesies and pleasant disposition, when everything should be made as bright and cheerful for them as circumstances will permit.

The position in bed is of great importance. Where absolute rest and recumbency are necessary they should be rigidly insisted upon. Nurses and attendants should be made to understand that the patient must not sit up to take food or medicine, or make sudden efforts to turn in bed. Where the patient's condition is very low, when the jaw drops and the tongue falls back in the throat, he should not be left lying on the back, for respiration will be mechanically interfered with to an extent that will weaken him rapidly and hasten death. Here the patient should be placed on the right side with the face looking downwards over the edge of the pillow. In this position the tongue falls forward and no longer obstructs the entrance or exit of air.

In the writer's hands this simple procedure has been the means of saving many

lives that undoubtedly would have been lost. A patient may, from various causes, get so weak that the tongue will drop back into the pharynx and impede respiration. The longer the patient remains in that position the weaker he grows. Now, assuming that the cause of the weakness is only temporary, as is often the case, turning such a patient on the side or drawing the tongue forward may be the equivalent of rescuing a drowning man.

The administration of food demands attention here. In cases requiring absolute recumbency, liquids should not be introduced into the mouth while the patient is lying on the back. Given in this position, they are not sufficiently under control of the tongue and may fall back into the pharynx before the latter is prepared. In this way food frequently gets into the larynx with most distressing results. In such cases the patient's head should be turned one side and the liquid poured from a spoon in small quantities into the lowermost angle of the mouth. Given thus, liquids lodge between the alveolar processes and the inner aspect of the buccal muscles, where they are under control of the tongue, rendering normal deglutition possible. Of course, feeding through a tube renders this procedure unnecessary, but there remain the cases of very young children who cannot be fed through a tube as well as those cases who are unconscious, or partly so, or so weak as to be unable to suck.

Cases present themselves in which a good deal more food is necessary than can be gotten into the stomach by the latter procedure. As instances may be mentioned cases of uremic coma or severe inflammations of the throat; cases where the patient is afraid, or is too stupid to swallow, or where repeated acts of deglutition are to be avoided. In such cases, with the aid of slight cocaineization of the nose and throat, nasal feeding may be resorted to with the happiest results. The stimulating effect of the cocaine is, in most of these cases, something to be desired. But more of this later.

Great care is to be taken that the stomach is not deranged by overfeeding or improper food. A mistake in this connection may be the immediate cause of death. Every one is familiar with the dreadful depression that accompanies a "sick stomach." Many a patient who is in a condition to continue the struggle for days without any food, loses his life through acute indigestion owing to indiscretion in this respect. Babies, owing to the ignorance or prejudice of their mothers or nurses, quite frequently lose their lives in this way. When the stomach shows signs of derangement it is best

to give it absolute rest at once while the patient has some strength left and not keep putting into it food and medicine only to see them rejected immediately, with no effect whatever beyond exhaustion of the patient. What has been said of food applies to the administration of medicines. If possible, everything that tends to upset the stomach should be avoided.

Drugs that depress the circulation or respiration should be avoided unless some positive, overpowering indication for their use be present. In any disease that promises to be long or severe and in which it is fair to expect a great strain on the heart, the *coal-tar antipyretics* should be avoided. These drugs have a powerful enfeebling effect on the nerves and muscles. They impair and even temporarily destroy sexual power. It is time that the public be warned of the deleterious effects of headache powders and tablets that do not cure headache but do cause *neurasthenia* and *impotency*. The time is ripe for rigid legislation restricting druggists selling the coal-tar products as "headache cures." But it is the effect of this class of drugs on the heart that concerns us here. No one disputes the cardiac depression that follows their administration. Many authors maintain that they weaken directly the cardiac muscle. In cases, then, where a long siege or a hard battle is to be expected, they should be avoided. It is bad practice to try to lower temperature at the expense of heart-strength, which will be so dearly needed before the end of the struggle. The writer has seen many babies to whom such antipyretics were administered early in disease, and when the time came for cardiac stimulation there was little or no response from the heart. Besides, such antipyretics are seldom or never necessary. We have a less harmful and more efficient means of controlling excessive temperature in judicious bathing, etc.

Where heat and cold are used as remedial agents their depressing effects should be remembered. The protracted use of cold has very depressing local effects. Cold is of service as a rule only in the beginning of acute inflammations and as inflammation is a reparative process, if cold applications be continued too long, trouble may ensue by delaying tissue repair. This is seen in inflammations of the eye, where the abuse of cold applications may interfere with the nutrition of the cornea, rendering it hazy or even opaque. Similar effects have been seen by the writer in acute inflammations of the joints and other regions. Apart from these remarks, heat and cold have their positive indications, which will be treated of later on in this paper.

The *hot mustard-bath* for children in convulsions is to be condemned. It entails too much jostling and frequently causes additional convulsions. The writer has seen paralysis follow a physician's strenuous efforts in this direction in a case in which on several occasions the convulsions yielded to the simplest kind of treatment. The mustard bath is generally *not* directed against the *cause* of convulsions and whatever effects it has can be procured in a simpler way by wrapping the body and limbs in a blanket wrung out of hot mustard-water. Of course, the stomach and intestines should be first emptied, and then the hot mustard-pack applied. Chloroform seems to be used too frequently in cases of convulsions. It has its indications, but after all it does not as a rule aim at causative treatment. The cause must always be found, if possible, and treated. Oftentimes emptying the intestinal canal will at once discover, as well as remove, the cause; but whatever is done the patient must be disturbed as little as possible.

Visitors do much harm; directly, by annoying the patient with conversation, whispering, etc.; indirectly, by discouraging the attendants and even the physician. The obstructionists are usually women. There are many types of them. There is the woman who has *her* opinion of the case as well as many suggestions to offer. She is as a rule not bad. She is simply foolish and can be won over with a little tact. Then there is the female inquisitor. The moment the doctor arrives and before he has entered the sick-room she wants to know "how the patient is this morning," and volunteers the opinion "that there is not much hope for him." She engages the physician in conversation and takes up valuable time that should be given to the patient. She is "sizing up" the physician, trying to measure the capacity of his head by the breadth of his smile or the cut of his coat. This class of person is very troublesome. To win her over the physician must neglect everybody and everything, his patient included. To resist her is to risk one's position. By the time he gets through with her he is hardly in a dispassionate frame of mind to approach the study of his case.

There is still another type. She is a woman of character. She knows the eloquence of action and remains silent. She is dissatisfied with everything, herself included. She sits around with a disgruntled expression, criticising and discouraging every one. In her heart she is glad that trouble has come to her "friend." Her one anxiety is the secret fear that anything may be done that might avert misfortune. When she is

not, present her evil influence is felt. She is a bogie, a spectre of ill-omen.

One sees strange things in the sick-room.

The second general rule laid down for the management of extreme cases is *the intelligent employment of positive measures calculated to conquer disease and sustain flagging function*. The following remarks are the result of bedside experience and may prove useful to the general practitioner:

Heat.—Cold extremities should be warmed by hot bottles; dry, hot blankets, etc. In cases of cerebral excitement a hot bath or hot-pack lasting from thirty to sixty minutes will prove a powerful sedative and hypnotic where its depressing effects are not a sufficient contra-indication. It will often succeed where our best drug remedies have failed. A hot vaginal douche lasting from fifteen to twenty minutes has been observed by the writer to be a good sleep-inducer in nervous women. The hot enema has similar results, but its importance entitles it to separate consideration. The Leiter coil is an efficient means for the application of dry heat. Poultices should be large and frequently changed. They are rendered much more efficacious if a rubefacient be first applied, such as a mustard-plaster, etc. In the early stages of inflammation of the middle ear a hot poultice properly applied will instantly relieve the ear-ache and reduce to a minimum the risk of impairment to the hearing. The best way to apply such a poultice is to shave the side of the head, after which the ear is filled with hot water and the poultice instantly applied. By this means water, which is an excellent conductor of heat, is substituted for the air, which is practically a non-conductor. The poultice should be thick and extend over the neck, cheek, and the side of the head. After the poultice the affected side should be protected from cold or the pain will return.

Cold.—The general application of cold is made chiefly by bathing accompanied by friction. The cold tub-bath is seldom resorted to now. Equally good results can be got by freely sopping and sponging the body with water or water and alcohol, at a temperature of from 80° to 90° F. The bath should last from ten to fifteen minutes or longer. Mothers and even nurses make the mistake of rubbing the patient with a light cloth wrung out of water, and fail to get the desired results. The patient should always be well sopped and lightly but briskly rubbed. Cold extremities or failure of prompt circulatory reaction are contra-indications of bathing. Locally, cold is applied by means of ice-bags, rubber coils, wet cloths, etc. Where there is congestion of the head, and in most cases with high fever,

cold applied to the back of the neck will aid the patient much and prevent delirium. The rubber coil is better here than the ice-bag. In the latter air floats on top of the melted ice and prevents conduction. The writer has seen in pneumonias excellent results from the local application of dry cold. Care has to be taken, however, for if the cold applications be continued too long damage may be done to the tissues and recovery delayed. Edema and induration have frequently been seen after ice-bags on the abdomen and so obscured the signs of well-marked appendicitis that the physician in charge made a diagnosis of mural abscess.

It should be remembered that antiseptic applications can and should be used simultaneously with cold in suitable cases. In erysipelas and acute articular rheumatism the writer has had excellent results from the frequent application of cloths wrung out of a solution of ichthyol cooled by ice. An ice-bag can also be applied outside the cloth saturated with the antiseptic.

The enema does not receive the attention from the practitioner that it deserves. As a rule the physician orders an enema and leaves the rest to the nurse or attendant, who throws the fluid into the rectum only to have it immediately expelled without benefiting the patient. The soap-suds enema should be given with the patient on the *left* side with the *hips well elevated*, resting comfortably on a support such as two pillows. The fluid should be retained for from ten to twenty minutes if possible, even though the patient desires to be rid of it sooner. The patient should not move from this position on the left side until that time has elapsed. Owing to the direction of the rectum, this position allows fluid to flow toward the sigmoid flexure and some time is necessary to allow it to permeate and soften the fecal mass as well as to stimulate a flow of mucus to lubricate the intestine and facilitate the onward movement of its contents.

Babies should be laid on the stomach, resting on a pillow, with the head low and the hips high. For many reasons the fountain syringe is the best means of giving rectal injections. It is easy of manipulation, gives a steady, equable flow and the pressure can be regulated at will. In small children the pressure should not exceed two or three feet. A catheter is not always necessary in giving high enemata with the intention of having the fluid retained. With the patient in the proper position, fluid allowed to pass slowly from a fountain syringe will find its way up to the sigmoid flexure. The position is all important, for if the hips be not kept elevated fluid will gravitate to the internal

sphincter and initiate the natural expulsive act.

The value of saline enemata is now well known. They restore equilibrium by supplying fluid to the blood and tissues depleted by fever, prolonged sickness, or other cause. They reduce fever, dilute toxins, remove waste matters from the bowels, relieve thirst, and, besides having a certain revulsive action by which probably they induce sleep, they stimulate renal secretion. In almost every acute illness of small children the intestines are affected directly or indirectly with serious disturbances of digestive functions. The toxemia resulting from fermentation of food causes aggravation and oftentimes convulsions. The child's condition may not warrant too much restriction of diet, and yet even a small amount of food, especially milk, may cause discomfort, fever, and even convulsions. In such cases saline enemata may be ordered as a safeguard. Two or three may be given in the twenty-four hours. They will prevent much trouble and save the physician many unpleasant "hurry-up" night calls. In protracted cases of "summer diarrheas" in children, saline enemata have a great field. They restore fluid to the body, dilute toxins, and prevent or delay the cerebral thrombosis which so often is the immediate precursor of death. But like everything else that is good, enemata may be and have been abused.

Transfusion and hypodermoclysis are other means of replacing fluid in the body, diluting toxins, and combating shock. Somehow the notion is prevalent that they are too complex for general use, though the technique is so simple that with the aid of an ordinary fountain syringe, a needle, a medicine dropper, and a ligature one can prepare for either operation in less time than it takes to write it. The practitioner should have the technique of these operations on his fingers' ends, for when they are indicated promptness is necessary to save life. They can be used to advantage in coal-gas poisoning, extreme loss of blood, and in any of the infectious diseases where toxemia is the predominating feature.

General *blood-letting* should not be overlooked in advanced cases of heart-disease, where withdrawal of blood may relieve the strain on the heart and prolong life. It is also useful in acute cerebral congestion, asphyxia neonatorum, eclampsia, uremia with high arterial tension, and coal-gas poisoning. In the last of these conditions transfusion may be indicated in addition to bleeding. In extreme cases, alternately raising and lowering the foot of the bed relieves the gorged overstrained heart by facilitating the flow of blood from the large

abdominal veins to the right ventricle. It secondarily affects the situation by bringing fresh blood to the great centers in the medulla.

Cupping should be remembered in renal and bronchial congestion, as well as commencing edema of the lungs.

Artificial respiration should be resorted to in every case where apparent death has supervened rather suddenly. This is especially true of such cases occurring in the newly born, in young children, and young persons in general, and in cases of poisoning where there is some hope of removing the poison. The physician's efforts should not cease while there is the faintest hope of arousing the vital centers to action. The writer has succeeded in resuscitating small animals after from two to four hours of apparent death induced by immersion in water for periods of from six to fourteen minutes. Babies have been known to recover after being pronounced dead by physicians. It may here be remarked that it is quite difficult in some cases of sudden death to say with certainty that the patient is dead. In the case of one of the babies above alluded to, all signs of life were absent for a period of several minutes. Respiration and circulation were suspended absolutely, the corneal reflex absent, and the pupils, which did not respond to light, dilated. Such cases show the necessity of persisting in attempts at artificial respiration. Position, friction, tickling of the nares, tongue-traction, the alternate application of heat and cold to the spine or breast, are of the utmost importance and may replace rougher procedures that might tend to exhaust rather than restore vital function.

The physician must give the greatest care and attention to the *administration* of drugs. Drug-therapy is a broad field. It calls for more study, intelligence, and good sense than perhaps any other branch of medicine. It is or should be the culmination and aim of all medical study, and yet how sadly neglected it seems to be as a matter of practice. For some physicians drug-therapy has no meaning at all. They do not "believe in medicines." It is a further illustration of the old saying, "Ignoti nulla cupido." For others, drug-therapy consists in the mere administering of a text-book dose. The possibility of failure of absorption, with consequent negative therapeutic effect, is quite frequently overlooked. Yet in the cases under present consideration failure of absorption is the rule. The inference is plain. Hypodermic administration is to be chosen wherever it is possible and to be insisted on wherever there is reason to suspect that gas-

tric absorption is impaired or retarded. What a ridiculous thing it is to put a drop or two of the fluid extract of digitalis or a sixtieth of strychnine into a stomach which, owing to a failure of circulation and digestion, is a very cesspool of fermenting, unabsorbed materials!

There may be cases, however, in which some impairment of absorption is present, and it is not feasible to have hypodermic administration. In such cases it is well to remember that water is, as a rule, slowly taken up by the stomach, while alcoholic solutions are more quickly absorbed. Hence, alcoholic solutions are to be preferred wherever it is possible and quick results are desired. Again, in some forms of gastritis there is practically no gastric absorption. In such cases we should avail ourselves of the absorption that takes place in the colon and use high enemata.

The *dose* of a drug is another thing that is frequently overlooked. How long will it take us to learn that there is no fixed rule for the dosage of drugs, but that it is the duty of the intelligent physician who expects results to find what dose each patient's condition or peculiarity demands, and then to administer it properly, watching carefully to see whether he gets the desired results or fails to get them. In the latter event, other remedies or different doses or methods of administration can be tried in an orderly manner, and so on. Where $\frac{1}{30}$ grn. of strychnine by mouth shows no effect, $\frac{1}{15}$ to $\frac{1}{10}$ grn. given hypodermically may be the means of saving life.

But there is developing in the profession a condition of affairs still worse than the mere giving of medicines improperly or in insufficient dosage. It is the tendency to ignore general medication altogether. Nowadays the specialist is consulted for almost every ailment. Now, just as the artist or poet thinks that the only thing in this world worthy of attention is painting or poetry, and everything else dull commonplace, so the specialist is apt to think that all the ills of humanity are due to a failure of appreciation of his art, and if only a brace were applied or a bone excised everything would go well and nothing further need be done by way of general medication. The writer is aware that in the special fields of medicine teachers and text-books insist on general medication, but as a matter of practice it is frequently ignored by specialists. A child with tuberculous hip-joint disease was treated for many months by a first-class specialist. She was given a brace and told to go home and take codliver oil. Abscesses developed later and the child's general health became much impaired. The mother

became anxious and consulted the writer. The patient was put upon guaiacol. In a short time the improvement in general health was quite noticeable, and the local condition went on to rapid recovery.

The practice of visiting patients too frequently is apt to obscure the physician's observations as to the effect of drugs and mar well-laid plans. One visit when the conditions are closely studied and intelligent lines of treatment laid down is better than several visits of the "looking-in" order. The trained nurse is a powerful ally. The physician should give full instructions as to possible contingencies that might arise during his absence, more especially with regard to the administration of drugs. While omitting nothing, the physician's orders should be so given as to simplify as much as possible the nurse's work.

Strychnine when urgently needed should always be given hypodermically. A sufficient dose should be given at once. Strychnine should be well known by this time. It is not a treacherous drug. Where it is indicated and badly needed it should be pushed to the limit, when rigidity of the jaw and muscular twitchings appear. If strychnine be not pushed to this degree it can hardly be said that the drug has had a fair trial in such cases. In order to appreciate the value of strychnine, one has to see a patient who is practically in a dying condition, with the muscles of the jaw relaxed, the mouth widely open, and the tongue, paralyzed, falling back in the pharynx, obstructing respiration. The administration of a full dose of strychnine tightens the jaw-muscles, restores control of the tongue, stops stertor, and allows the patient to breathe freely, so that after a short time he may be able to swallow and even speak. The picture of such a case is never forgotten, nor is the value of strychnine.

Cocaine alternated with strychnine wonderfully enhances the effects of the latter and sustains the nerve centers so that they respond to stimulation for a much longer period. The explanation seems to be that as cocaine acts chiefly on the cortical centers, vital action is diverted to the brain, thereby relaxing tension on the spinal centers, allowing them opportunity for rest and repair. Energy is thus stored up in the spinal centers, to manifest itself later on in response to strychnine. Conversely, when strychnine is given the cortical cells are rested and nourished. But whatever the physiological explanation may be, a patient can be sustained much longer by the alternation of these drugs than by either alone. In such cases, delirium need not always be a

contra-indication to the use of cocaine. In some cases under the writer's observation, delirium had to be and was overlooked with the happiest results. They were chiefly cases of pneumonia, but one was a fracture of the base of the skull. In these cases the delirium was not affected or was affected for the better. If nasal feeding has to be resorted to, the cocaine may be given as a spray for the nasal passages at the proper time with good effect. Absorption in the nares and pharynx is rapid. Otherwise cocaine is best given hypodermically.

The initial dose of strychnine in urgent cases should seldom be less than $\frac{1}{15}$ grn., to be increased if necessary. To begin with less means loss of valuable time. The writer has been compelled to use as much as $\frac{1}{8}$ grn. hypodermically every six hours for several days, in conjunction with cocaine. Beyond twitching and rigidity of the jaws there was no bad effect. In this case strychnine and cocaine were undoubtedly the means of saving life. From six to eight hours is the proper interval between doses of strychnine. In insomnia due to "nervousness" strychnine in moderate dose gives a predisposition to natural sleep.

Digitalis will often disappoint in acute diseases if its administration be deferred until the heart begins to fail. All vital processes suffer when the circulation becomes unsteady or impaired. Much strength can be saved by keeping the heart as steady and natural as possible in its work. *Digitalis* should be given early, in small doses, in every acute disease where heart-failure is to be anticipated and no sufficient contra-indication exists. The best preparation is the fluid extract, but it seems to be very difficult to get a satisfactory article from the average druggist. The writer has frequently failed to get results from *digitalis* until he personally took the trouble to procure the drug himself from a reliable source. In chronic cases of heart deficiency *digitalis* finds its best field. It should be given for months in any chronic illness where heart deficiency is a factor. Many cases of chronic bronchitis, asthma, and nephritis that are considered incurable will yield to *digitalis* and rest, followed later on by graduated exercises. The writer has succeeded in curing cases of passive nephritis which were given up as hopeless by many physicians. Some of these patients were in very poor circumstances and had to depend on the goodness of their neighbors to do their housework while absolute rest was rigidly insisted on for *months*. This, with *digitalis*, effected the cure. Of course, any one can understand what a task it was to under-

take to keep such patients in bed for such a length of time, but the end was worth the effort.

Strophanthus in conjunction with digitalis at times seems to get a response from the heart that is not elicited by digitalis alone. Though worthy observers deny it, there is such a thing as cumulative effect and acquired toleration of digitalis. Acquired toleration in part accounts for the effects observed when *strophanthus* is added. It is therefore wise to discontinue digitalis at intervals, during which *strophanthus* may be used to advantage. Digitalis is too irritating for hypodermic use, though a reliable tincture seldom causes trouble. Digitalin, from a reliable source, is to be preferred, but as before remarked, if the administration of digitalin or digitalis be deferred until there is urgent need of them in the presence of impending dissolution, they will often disappoint.

In cases of sudden heart-failure, where some prompt cardiac stimulant is required, good service will be rendered by the rapidly acting stimulants, such as sparteine sulphate, camphor, sodio-benzoate or sodio-salicylate of caffeine and nitroglycerin. Each of these drugs can be given hypodermically, but their action is more or less evanescent when compared with digitalis. Siberian musk is also a powerful and rapid stimulant, but it is costly and not always within reach when needed.

Nitroglycerin, besides its use as a stimulant, acts quickly to dilate the blood-vessels in uremia with contraction of the arteries, and also to relax bronchial spasm in asthma. Its action in those cases is also of comparatively short duration. Other valuable means of reducing arterial tension are the hot pack, chloral, and purgatives.

Rectal irrigation by means of the double current irrigator for a period of fifteen minutes, repeated frequently, is often available where it is impossible to have the hot pack, and will render good service by cleansing the bowels, diluting toxins, reducing arterial tension and stimulating renal secretion. Quite frequently in advanced cases of nephritis, when all measures fail to reduce arterial tension, a 5-grn. blue pill followed by a saline cathartic, repeated every night for a week, will have a happy effect. Notwithstanding an apparent contra-indication in these cases of uremia with delirium and high arterial tension, small doses of morphine may and should be given. Frequently they will aid other measures in reducing arterial tension and allaying excitement.

Morphine in conjunction with atropine is used with advantage to secure rest and allay excitement. Sometimes, however,

these drugs seem to aggravate conditions of excitement, and wherever their use is prolonged larger and larger doses have to be used, until after some time their effects are delayed or show no benefit whatever. In such cases *hyoscine hydrobromate*, $\frac{1}{100}$ to $\frac{1}{50}$ grn., will have a striking effect. After one such dose, smaller doses of morphine will again take hold with happy effects for periods extending from twelve hours to several days, when the *hyoscine* will have to be repeated. This has been a matter of observation with the writer for some years past. *Hyoscine*, however, acts peculiarly at times. After its administration a condition of apnea and coma sometimes supervenes, simulating death and causing alarm to the physician and the patient's friends. Care should be taken in giving *hyoscine* where chloral has been used. Death has followed a moderate dose of *hyoscine* given where chloral had failed.

Quinine quite frequently passes through the intestines unabsorbed. This is most apt to occur when it is put up in capsules with other drugs in the "mass form" and more especially when administered while fever is present. It seems as though it were possible for one capsule to remain in the stomach for several hours until a second is given. The writer ordered, for a young lady, capsules each containing 5 grn. of quinine sulphate. The patient took a capsule at lunch and went bathing. In the evening after dinner, she took another capsule and immediately became violently ill, with all the symptoms of quinine poisoning, including a well-marked scarlet rash all over the body, limbs, and face. She had frequently taken 5 grn. of quinine on previous occasions without any distressing effects. The quinine was discontinued. Recovery was prompt. The remaining capsules were taken later without bad effect. The explanation seems to be that one capsule contained an overdose, or digestion was retarded by bathing, and the first capsule remained in the stomach until the second was taken, when the digestive function resuming activity the contents of both capsules were absorbed at once. In cases of chronic gastritis complicating malaria or anemia, iron and quinine will generally fail to show results until the stomach has been first put in order by appropriate treatment, such as rest, diet, lavage, etc.

The writer has repeatedly had trouble with quinine, sometimes getting no result, sometimes getting too much result. But one has to expect such things, since quinine is such a variable commodity on the market. The introduction of *euquinine* has, however, obviated trouble in this connec-

tion. The latter preparation is tasteless, can be given in mixtures, and is readily absorbed. It has been found to give much more consistent results than quinine, and seems to be tolerated by people who cannot stand a sufficient dose of quinine. Where the stomach was somewhat disturbed and quinine in capsules failed or aggravated the stomach disturbance, euquinine in graduated doses was borne with good effect until full therapeutic doses were tolerated. Sometimes in full doses it has caused tinnitus in children, but such effects passed away in from twenty-four to forty-eight hours without suspending administration of the drug. It is much more convenient than quinine for administration to children. Besides malaria, it renders excellent service in many other diseases, such as pneumonia, whooping-cough, and those forms of intestinal inflammations where there are marked periodic elevations of temperature with complete intermissions.

Bromides are rapidly absorbed from the rectum. They should be more frequently given in this way than they are at present. Where there is stomach-disturbance quick results can be had from rectal administration. The writer has known cases of constipation in nervous women to be permanently relieved by the administration of a few doses of bromides per rectum, though not given with that intention. They might have been purely *post-hoc* phenomena, but the facts remain.

Iodides are also readily taken up by the rectum. The writer has had opportunity to corroborate an old observation that very large doses of iodides may be well borne where smaller doses are not tolerated. From 500 to 800 grn., given in twenty-four hours, was tolerated for several days without discomfort in a case of cerebral endarteritis of syphilitic origin. But it is doubtful whether there is any benefit to be derived from larger doses where daily doses ranging from 100 to 300 grn. have failed. In the case mentioned, the iodides failed to show beneficial effects, probably owing to the plugging of the smaller vessels of the pia mater, preventing access of the drug to the site of the lesions.

The *inhalation of oxygen* will disappoint if one is expecting great things from it. Its benefit is doubtful, except in what may be called the suffocative form of pneumonia. The best results are had when it is given early, well diluted with air, and with intermissions. It should be used with judgment in all severe struggles, as every little counts.

Alcohol, as the writer has elsewhere remarked, is a great saver of strength and tissue. It should be given early, well diluted

and in small doses. The amount is to be increased later as occasion demands. The value of champagne is well known. The practitioner in poor neighborhoods should not forget that there is on the market a domestic wine that is inexpensive and available for patients in narrow circumstances. In suitable cases it will be found an agreeable surprise to the physician and patient.

Guaiaicol seems to be indispensable in tuberculous and other affections. It is exceptionally serviceable in children of the lymphatic diathesis, who are affected with adenoids, etc., and whose flesh is soft and flabby. Pure guaiaicol given with nux vomica and gentian in port wine is an excellent tonic. It is far cheaper and much better than malted-molasses preparations that ferment and disturb digestion instead of aiding it.

Physicians relax their efforts too easily in tuberculous affections. They are apt to pay too much attention to symptoms, such as cough, etc., and overlook the substantial treatment of causative factors. The patients should be informed that the cough or other symptom is not the disease, and that medication must be continued for a long time. The physician must insist and persist if he is to conquer so formidable an enemy. *Thiocol* and *guaiaicol carbonate* are agreeable preparations of guaiaicol, practically tasteless and odorless. They can be used at the outset of treatment where one fears to shock the patient with the odor of pure guaiaicol. But invariably the writer falls back on pure guaiaicol for the prolonged fight. It should be remembered that guaiaicol is readily soluble in alcohol. Consequently, to avoid stomach derangement, alcohol should be given with it in the form of wine as above stated. One intelligent (?) druggist put up a favorite prescription of the writer's, containing pure guaiaicol, in capsules, to obviate the necessity of taking wine. The stomach was soon in rebellion, a thing never before seen by the writer after guaiaicol properly administered.

In the treatment of hip-joint disease and the various tuberculous diseases of the bones, a prolonged course of guaiaicol should always be given. Not to give it in such cases is a serious oversight. In intestinal diseases occurring in babies and small children, thiocol is well borne, is a good intestinal antiseptic, and will often prevent the secondary pneumonia which is apt to occur where there is marked intestinal infection.

In the management of those cases that form the subject of the above remarks, the physician should do everything with the greatest deliberation. Overstimulation must

be guarded against. If the nares, for instance, are "working," the respiratory center does not need the spur and atropine is not required. Nor is it wise to lay the whip on a heart that is doing fairly well merely for the sake of having an excellent pulse for a few hours, after which the heart, having shot its bolt, may collapse. Close observation and good judgment are necessary. Strength must be husbanded. A practical familiarity with drugs and their workings is most important. Results should be closely watched for in every case. It is well, also, for the physician to be familiar with the physical properties of expensive proprietary preparations which tempt the druggist to substitute cheaper imitations.

In protracted cases or those which hold out little hope, the physician must not grow stale or waver in his determination. The future is never absolutely certain. Something must be done. The people expect it and it is the physician's duty to do it and do it thoroughly. Melancholy, hope-abandoned individuals are not popular. They are not the people who "do things" in this world. Physicians must have confidence in themselves if they wish to inspire it in others. It is hardly proper to abandon a patient before the struggle is quite at an end. It is illogical. There is always a chance and we should make the most of it. But some will say: "What is the use? The patient is going to die anyway." Miserable logic that fosters pessimism! Though failure stare us in the face for the thousandth time, we must not think of desisting. In the most hopeless-looking cases improvement will take place, sometimes as the result of our efforts, sometimes as an unlooked-for piece of good fortune. Be the cause of the change what it may, the smiles that greet the physician on his next visit lift the leaden burden from his soul and he goes out into the pure morning air with a feeling in his heart the busy world can little divine. It is a feeling akin to that enjoyed by artists endowed with creative genius. It is the physician's reward for a life of study, care, and watching; a life of sleepless nights and ceaseless activity, unselfishly devoted to the welfare of others.

438 West Forty-fourth Street.

FOR PRURITUS ANI.—

| | | |
|---------------------|----|------|
| Carbolic Acid | 30 | grn. |
| Calomel | 1 | dr. |
| Tar | 1½ | dr. |
| Menthol | 20 | grn. |
| Zinc Oxide | 2 | dr. |
| Simple Cerate | 2 | oz. |

Wash the parts with hot water and spread the ointment on a cloth. Apply and fasten with a T-bandage.

[Written for MERCK'S ARCHIVES]

ADDISON'S DISEASE: AS AFFECTED BY SUPRARENAL EXTRACT

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As a general rule a disease can only be satisfactorily studied, its etiology determined, and its most efficient treatment ascertained, by the analysis of a large number of cases observed under conditions not often found outside of large hospitals. There are, however, some pathological conditions of such a nature that they can be studied only in isolated examples. A comparison of the notes of different observers is our only source of knowledge of such diseases. The pathological phenomena associated under the name of Addison's disease afford an instance of this character. On account of its rarity and the chronic course of the malady, a majority of physicians never see a case from inception to conclusion, and many of the reports published concerning it are confused and contradictory.

When, in the year 1855, Dr. Thomas Addison, of London, published his model dissertation on "The Constitutional and Local Effects of Diseases of the Suprarenal Capsules," he gave to the profession a key to the study of the series of confusing symptoms which had before that time suggested most diverse and unsatisfactory explanations. The brown splotches were considered "liver spots," and were treated with mercurials or hydrochloric acid. The dusky complexion was uremic or chloremic, the debility and languor were ascribed to anemia, and the nerve symptoms were classed as hysterical, choreic, or epileptic. Such a train of symptoms was not thus to be satisfactorily explained, and Addison's conclusions, meeting an evident necessity, were accepted almost unchallenged. From that time until the discovery of the therapeutic power resident in some of the glandular organs but little new light was shed upon the matter. Organo-therapy opened a wide field for investigation and the suprarenal glands were soon interrogated as to their unknown potencies. These have proven to be so positive and important that any derangement of these organs is ample cause for grave constitutional disturbance.

The classical picture of "Addison's disease" is distinct and easily recognized. The most striking symptom is the pigmentation, appearing sometimes as dark-brown patches upon the face, neck, hands or other exposed parts of the skin. Regions naturally

pigmented, such as the genitals, areolæ, etc., are colored most deeply, and wherever there is irritation or chafing the color is intensified. Often the splotches present the color of strong-coffee stains. The staining is not confined to the splotches but pervades the whole surface with a dusky hue. The anatomical seat of the pigmentary deposit is in the lowest layers of the rete Malpighii, the tissue containing the pigment which gives the negro his characteristic color. After a varying period, other important symptoms make their appearance. A condition of profound anemia, accompanied by excessive languor and weakness, supervenes. Digestion is disordered, constipation and diarrhea alternately annoy the patient, and towards the climax of the disease profound disturbances of innervation cause explosions of choreic or epileptiform character.

Several theories have been advanced to account for the remarkable results of disease or destruction of the adrenals, but all that is definitely known is that they are intended to secrete one of the most powerful physiological products with which we are acquainted. Whether it plays the part of a constructive or a corrective is not decided. A more important question is, what effects do we derive from the administration of the secretion of these organs to patients in whom they are diseased, or who present symptoms leading to a belief that such is the case?

For several years I have been treating, at intervals, a patient whose symptoms present a complete picture of Addison's disease, and the history of the case, together with an account of the treatment and its results, cannot fail to be of interest to the profession. In the year 1889 I was called to see a lady suffering with what she called congestion of the stomach. A brief examination led me to the conclusion that she had a gastralgia of nervous origin, and treatment directed accordingly soon relieved her. She stated that her physician at home had several times treated her for similar paroxysms and called them congestion. Further inquiry revealed a deep-seated pain in the back, between the shoulder blades, alternating constipation and diarrhea, weak stomach digestion, and considerable anemia with an unusual degree of languor. Her complexion caused her great anxiety and mortification. It had, she asserted, been very light and clear until her health began to fail. It was now of a muddy, brownish hue, and there were splotches of darker brown on the forehead and temples. Probably there was pigmentation in other regions, but as I failed to

realize the interesting nature of the case I did not seek for them. The pigmentation was attributed to the liver and also partly to chlorosis. The usual treatment—mercurials, followed by iron, arsenic, and strychnine—was somewhat beneficial, but did not afford the degree of relief I had expected. The irritable condition of the nervous system demanded constant sedation and the pain between the shoulders was persistent and annoying. She soon returned to her home and I lost sight of her until 1892, when she again came under my care. She had married in the meantime, but her health continued to cause her anxiety and discomfort. The pain, anemia, languor, dark skin, and brown splotches were all more urgent than when I had last seen her. It was at this time that I realized the true nature of the case, but a knowledge that it was Addison's disease gave me no comfort. Not being aware of the treatment with suprarenal extract, I deemed it a hopeless case and made no effort beyond palliation. Very much discouraged, she went to a distant city and placed herself under the care of a homeopathic physician. For several months she was confined to her bed and he was in daily attendance.

During this time she gave birth to a female child. It is still living and normal in every way except in intellect, which is abnormally brilliant and pleasing. About six weeks after her delivery she was suddenly, without any premonitory symptoms, attacked with epileptiform convulsions of a most violent type. Between four and seven in the afternoon she had eight severe convulsions, without any return to consciousness in the intervals. By eight she was fully under the influence of the bromides and chloral, and slept peacefully from that time until morning, when she awoke in full possession of her faculties, and curious to know what had happened to her. During the two following years she was attacked at intervals with sudden seizures, sometimes like epilepsy, at others like syncope. The pain in her back was constant and severe. To which, every three weeks, were added the pains of dysmenorrhea, resulting altogether in perpetual confinement to her bed. Meanwhile the results of organo-therapy engaged my attention and I determined to test the efficacy of suprarenal extract in this case at the first opportunity.

In 1898 she again placed herself in my care. Her condition was much the same as I have described, excepting that for some months she had not had a "fainting spell," as she called it. Her time was mostly passed in bed, though she would daily

put on her clothing and receive a few friends. I determined to try adrenal extract at once, and lest impression might play some part, if she should learn that it was a new treatment for her disease, and modify the legitimate results, I did not inform her of my purpose. I merely told her I had a new medicine for such splotches as were disfiguring her face, and that I would like to try it. She at once consented. The brown spots had caused her much mortification and she was willing to risk a great deal for the chance of getting rid of them. The preparation was a suprarenal powder, put up in 3 grn. capsules. Of these she took three daily, one at morning, noon, and night. The effect was promptly apparent. In three days the splotches showed a decided diminution, and the general muddy tinge began to clear up. Patient was delighted and suggested to some of her friends with bad complexions that they try some of the new medicine. This I promptly discouraged, but afterwards regretted that I did not allow them to try the experiment. Subsequent developments, however, have convinced me that I was right, some of my results being anything but desirable, as will be seen in further paragraphs.

The general appearance of the patient rapidly improved, and on the eighth day of the treatment without any question from me to suggest the fact, she volunteered the information that the pain between her shoulders had disappeared. I then told her that the medicine was intended to relieve all her symptoms, but that she need not expect to be permanently cured; that she would be obliged to take it at intervals as long as she lived; that it was an extract made from certain parts of a sheep, and neither unclean nor poisonous. She was entirely satisfied with these conditions and during the following month, while still under my observation, reached a condition of good health such as she had not experienced for many years. She then returned to her home. Occasional letters informed me that her "resurrection," as she called it, still continued; that she took her "sheep pills" regularly, and had become able to assume the management of her father's large household. I finally lost sight of her, but in the summer of 1901 she again consulted me. She had relapsed into her old condition. Financial troubles had compelled economy, and the suprarenal extract was expensive. It was nine months since she had taken any, and the druggists to whom she had applied for it a short time before I saw her, did not keep it. I procured a supply of adrenal extract that I knew to be fresh, and,

after some preliminary eliminative and antimalarial treatment, I began the administration of 3 grn. in a capsule three times a day. On the fifth day, having in this way taken twelve capsules, 36 grn. in all, she was seized with a severe attack of gastralgia. When I reached her the agony was extreme. She was writhing and groaning and seeking relief by hard pressure into the epigastrium. The surface was pale and cold, indicating intense vaso-constriction, the mucous membrane participating in the bloodless condition. I had supposed that the drug could produce this effect only when locally applied, or injected intravenously. Morphine and atropine soon relieved the paroxysm, and after suspending all medicine for a few days, the capsules were resumed. After taking six more she had another attack of gastralgia and again the extract was suspended. At the end of a week she began taking one capsule at night and one in the morning. On the fifth day the gastralgia returned more violently than ever, the vaso-constriction being marked and persistent. The pulse was weak, slow and labored, and the entire surface cold and pale. It required active and energetic treatment, including the administration of morphine, atropine, and nitroglycerin to relieve her. It was with some difficulty that I persuaded the patient to resume the treatment, but in a few days she did so, taking only one capsule a day. This amount caused no trouble, and a very gratifying improvement of all the symptoms appeared. At the present time (January, 1902) she writes that her health is good. The brown splotches have disappeared, her complexion is much lighter, the excretory functions are properly performed, and she feels quite well except for a slight cold.

A study of the blood and of the urinary secretions during the last attack afforded no information of value. The erythrocytes numbered nearly four millions per Mm., the hemoglobinometer registered 70 per cent., and the urine was about normal in every respect. I made no study of the leucocytic elements, but hope to at some future time.

Several features of this case seem to me to be very instructive: First, the extremely chronic course of the case; then the long-continued pain in the region of the suprarenals; the fluctuations of her condition contemporary with the successive suspensions and resumptions of the treatment; the intense vaso-constriction lately following the ingestion of the drug in quantities exceeding 3 grn. in twenty-four hours, and the absence of profound hematologic changes with such apparently profound

anemia—all constitute a clinical picture of unusual interest. It is universally admitted that Addison's disease is caused by the suspension of secretion by the suprarenal glands, and such was undoubtedly the case in this instance; but the intense vaso-constriction produced by an overdose suggests a consideration of the results in case of over-production by the normal glands. The region they occupy is so rich in nervous and ganglionic elements that it is easy to imagine a stimulation communicated from adjoining disturbance. This would explain some mysterious paroxysms accompanied by vaso-constriction—such, for instance, as the gastric crises of locomotor ataxia. In this instance of paroxysms of gastralgia, caused by an excess of the adrenal secretion, the premonitory symptom was always a pallor of the skin, lowered temperature, coldness of the extremities, and a blanching of the visible mucous membranes.

During her long illness the patient has repeatedly been saturated with tonic and chalybeate treatment, but only when it is associated with adrenal extract does it have a satisfactory effect. By maintaining normal elimination, supplying from outside the missing physiologic element, and feeding the blood with a suitable iron preparation, the invariable result has been in this case an almost magical restoration to health. On the other hand, suspension of the treatment is followed by a return of the symptoms. Such are the conditions in this case. Of course, it does not follow that other cases will present the same conditions under similar treatment. The different and more violent results of the last extract used, compared with the effect of the first lot taken by this patient, I attribute to difference in the strength of the two preparations. Perhaps, also, there was a diversity in the condition of the patient at different times.

[Written for MERCK'S ARCHIVES]

AN INDEX OF DISEASES ALPHABETICALLY ARRANGED, WITH THEIR MODERN TREATMENT

By G. Bjorkman, A.M., M.D.,

Professor of Physiology, Milwaukee Medical College

(Continued from page 470, December issue)

ATAXIA.—See **TABES DORSALIS** (locomotor ataxia).

ATHEROMA.—A variety of chronic endarteritis (*q. v.*) more frequently affecting the larger vessels; often, however, causing degeneration of the cerebral arteries in old people. Therapeutic agents tending to re-

tain the normal elasticity of the arterial tissues should be applied; avoidance of alcoholics and exercise; excitement should be guarded against. Syphilis is of etiological importance. In old people suffering from arteriosclerosis, digitalis is contra-indicated.

(187) *Euquininæ*.....5. (75 grn.)
Acidi Arsenosi.....0.06 (1 grn.)

Ft. pil. No. L.

One pill after each meal.

BALANITIS and **BALANOPOSTHITIS** (inflammation of the glans penis and the preputial mucous membrane).—The interpreputial space should be thoroughly cleansed every four hours with some mild but effective antiseptic. Lint wet with such antiseptic solution should be kept inside of the prepuce, or a salve may be applied.

(188) *Liq. Plumbi Subac.*.....2. (30 min.)
Aq. Hamamel. Dest......180. (6 oz.)

Externally as directed.

(189) *Potassii Chloratis*.....6. (1½ dr.)
Aq. Dest.,

Aq. Rosæ, aa.....90. (3 oz.)

Externally.

(190) *Ichthyol*.....25. (6 dr.)
Aqua Dest., ad......240. (8 oz.)

Externally, on absorbent cotton.

(191) *Xeroformi*.....3. (45 grn.)
Adipis Lanæ,

Petrolati, aa.....15. (½ oz.)

Externally.

BASEDOWI MORBUS.—See **Morbus Basedowi**.

BLENNORRHŒA CONJUNCTIVÆ and **BLENNORRHŒA NEONATORUM.**—See **Conjunctivitis**.

BLENNORRHŒA URETHRÆ (gonorrhea, clap).—Inflammation of the urethra due to gonococci. The gonorrheal infection, generally limited in the beginning to *pars cavernosa*, is a rather slight affection if properly taken care of. The aim of the therapist should be, therefore, to keep the infection away from the deeper parts of the urethra. Thus, injections, irrigations or careless sounding in the acute stage of gonorrheal infection should always be avoided. The first measures, in a fresh case, should be rest for the parts and avoidance of any irritation to the pelvic organs: coitus, liquors, beer, and even coffee are contra-indicated. If there is a tendency to constipation, a saline laxative should be recommended. The next step is the administration of an effective but harmless disinfectant. This disinfection and lubrication of the uro-genital tract is properly brought about by balsamics and other remedies given per os, such as santal oil, copaiba, pichi-pichi, methylene blue, ichthyol, etc.

After absolute disappearance of the acute symptoms, injections or applications

of medicated bougies should be resorted to (see below).

The diet should be light and plain; milk and water for drink; spices, coffee and even carbonated water should be avoided. The physician must never forget to caution the patient against the complications of gonorrhea, such as ophthalmia, adenitis, cystitis, epididymitis, gonorrheal rheumatism, etc.

(192) Extr. Pichi Fl. 90. (3 oz.)

One-half to a teaspoonful four times a day.

(193) Olei Santal. Puriss. 10. (2½ dr.)

Olei Menth. Pip. gtts. x. (10 drops)

Ten drops four times a day, in water, on sugar, or in capsules.

(194) Kino Pulv. 4. (1 dr.)

Bals. Canadens. 8. (2 dr.)

Rad. Althææ. q.s. ut ft. pil. No. lx.

Four pills morning and night.

(195) Methylene Blue (Medicinal),
Pulv. Myristicæ Sem., aa. . . 0.2 (3 grn.)

Dr. tal. dos. ad. caps. No. xx.

One capsule three times a day. (The patient should be told beforehand of the coloring effect of the drug on the urine.)

For the often bothersome erections (chordee) certain drugs are of value:

(196) Lupulini 4. (1 dr.)

Camphoræ. 0.6 (10 grn.)

Ft. pil. No. x.

One pill every two hours.

(197) Extr. Opii. 0.06 (1 grn.)

Extr. Cannab. Ind.,

Extr. Hyoseyami, aa. 0.12 (2 grn.)

Lupulini 0.4 (6 grn.)

Butyr. Cacao, q.s. ad. supposit. No. iii.

One to be inserted in the rectum at bedtime.

Potassium bromide, with or without chloral in full doses; monobromated camphor, cocaine locally on the glans penis, and homeopathic doses of cantharides are also recommended as anti-erection remedies.

Injections.—Before injecting, the patient should empty his bladder. The solution should be lukewarm when injected, and the urethral canal cleansed with warm water, decinormal salt solution, or weak solution of potassium permanganate before the regular injection is given. A glass syringe with a rubber nozzle is preferable. Injection should never be forced into the urethra, but kept inside for five to ten minutes under gentle manipulation.

Antiseptic Antigonorrheal Solutions

(198) Argentamini. . . 0.25 to 1. (4 to 16 grn.)

Aq. Destil. 500. (16 oz.)

Dr. ad. vitr. nigr.

Use several times a day,

(199) Largini. 1. to 3. (16 to 48 grn.)

Aq. Destil. 240. (8 oz.)

Dr. ad. vitr. nigr.

Inject three times a day.

(200) Hydrarg. Salicyl.,

Potassii Carbon., aa. 0.2 (3 grn.)

Aq. Destil., ad. 120. (4 oz.)

Inject two or three times a day.

(201) Ichthargani. . . 0.015 to 0.06 (¼ to 1 grn.)

Aq. Dest. 240. (8 oz.)

Dr. ad. vitr. nigr.

To be injected four or five times a day.

BOUGIES

(202) Methylene Blue (Medicinal). 0.6 (10 grn.)

Ceræ Albæ.

Adipis Lanæ. q.s.

Ad bacill. urethrales No. vi.

One to be introduced morning and night, after micturition.

(203) Collargoli Credé. 0.25 (4 grn.)

Ft. cum saccharo lactis, pulv. acaciæ et glycerino bacilli urethrales. No. x.

Use one every morning and night.

(204) Argent. Nitrici. 0.2 (3 grn.)

But. Cacao. q.s.

Ut. ft. bacilli urethrales No. x.

Insert one every evening.

Astringent Antigonorrheal Solutions

It is proper to combine the antiseptic and the astringent treatment, which often brings a far speedier recovery.

(205) Plumbi Acetati.,

Zinci Sulphat., aa. 1. (15 grn.)

Aq. Amyg. Amar. 90. (3 oz.)

Aq. Sterilissat., ad. 240. (8 oz.)

Shake well before using. Inject three or four times a day, allowing the solution to remain ten minutes.

(206) Acidi Tannici, Superior. . . 0.5 (8 grn.)

Vini Gallici Rubri, ad. 90. (3 oz.)

Use for urethral injections three times a day.

(207) Aluminis. 1. (15 grn.)

Aq. Dest. Steril.,

Aq. Rosæ, aa. 45. (1½ oz.)

Inject several times a day.

(208) Hydrastini Mur. 0.5 (8 grn.)

Zinci Acetat., ad. 0.6 (10 grn.)

Glycerini,

Aq. Rosæ, aa. 60. (2 oz.)

For urethral injections, several times a day.

(209) Ichthyoli. gtts. c. (100 drops)

Glycerini. 30. (1 oz.)

Aq. Dest., ad. 240. (8 oz.)

As above. (Lukewarm).

(210) Zinci Permangan. 0.5 (8 grn.)

Aq. Dest. 240. (8 oz.)

For urethral injections, several times a day

When the gonorrhea has reached a chronic stage, involving the prostate, radical treatment of this organ should be instituted. Daily and thorough massage of the prostate gland with subsequent insertion of ichthyol suppositories is the most successful treatment.

(211) Ichthyoli. 0.65 (10 grn.)

Butyr. Cacao. q.s.

Ad supposit. unum talia supp. No. xii.

Insert one morning and night, after evacuation.

If signs of a stricture appear, a progressive treatment with metallic sounds should be resorted to. If irritation of the pars membranosa exists, there should be local application, by aid of an endoscope, or with

Guyon's dropper, or Ultzmann's urethral syringe, of any of the following remedies:

- (212) Argentamini..... 0.5 (8 grn.)
Aq. Dest.....90. (3 oz.)

(Increase to 1:25 by degrees.)

Dr. ad. vitr. nigr.

One to two Cc. to be introduced to the caput gallinaginis with Guyon's or Ultzmann's syringe every second or third day.

- (213) Tannini Superior..... 0.5 (8 grn.)
Butyr. Cacao..... q.s.
Ut ft. bacilli urethrales longit. centimet. duo
(4/5 inch long) No. v.
One to be introduced every other night.

A 5-per-cent. silver-nitrate solution may also serve the purpose; or, better yet, 10 drops of a 3-per-cent. ichthargan solution applied with Guyon's syringe. (See Prostatitis, Impotentia.)

For vaginal gonorrhea: A Ferguson's speculum of the largest possible caliber is introduced after thorough irrigation and cleaning of the vaginal mucous membrane. Into this speculum a 5-per-cent. solution of argentamine is instilled, the speculum being slowly turned and manipulated to allow the remedy to come in contact with every part of the vagina. A cotton sponge on an applicator soaked in the same solution should then be introduced between the rugæ into the deeper folds, and finally a flexible sound, wrapped in gauze or lint soaked in argentamine solution, should be slowly inserted into the female urethra. A few applications of this kind suffice to cure the worst forms of acute gonorrhea in females.

BRONCHIECTASIS (putrid bronchitis with pathological dilatation of the bronchial tubes and bronchioles).—Daily inversion (prone position) until cough is produced and the bronchioles emptied of their putrid contents as much as possible. Common expectorants or inhaling methods are generally insufficient. The best results are gained by direct application to the bronchial tree or through the circulation of remedies—per os or per rectum—that are easily eliminated by the pulmonary tract. Narcotics to lessen the cough are absolutely contra-indicated. To prevent the development of pyogenic micro-organisms and metastatic abscesses, inunctions with Crede's collargol ointment are advisable. The most efficient remedy against fetor is syrup of garlic.

- (214) Syrupi Allii.....180. (6 oz.)
Dessert- to tablespoonful several times a day.

For children: Syr. Allii and Syr. Tolu, equal parts. Teaspoonful three times a day.

- (215) Caps. Myrtoli.....0.15 (3 drops)
No. L.
One capsule five to ten times a day.

Application per rectum:

- (216) Creosoti Puri..... 20. (5 dr.)
Eucalyptoli..... 8. (2 dr.)
Tr. Benzoini..... 40. (10 dr.)
Bals. Copaibæ..... 60. (2 oz.)
Olei Amyg. Dulc., ad.....180. (6 oz.)

One-half to a teaspoonful in milk, per rectum, once a day. Gradually to be increased to two teaspoonfuls. This treatment should be continued for months.

Daily inhalations of creosote vapor in a closed chamber have been highly recommended. The older therapeutics with balsamics is almost abandoned. Some few formulas have, however, a good effect.

- (217) Ammoniaci,
Pulv. Scillæ, aa.....1.5 (24 grn.)
Pulv. Ipecac..... 4.5 (72 grn.)
Div. in pil. No. XL.
Two to four pills daily.

- (218) Balsam. Peruv.....3. (45 grn.)
Pulv. Myrrhæ.....6. (90 grn.)
Extr. Opii.....1. (15 grn.)
Div. in pil. No. LXXV.
Two to four pills every two hours.

BRONCHITIS CATARRHALIS ACUTA (acute catarrh of the bronchial tubes and trachea; tracheitis).—As most of the acute disturbances of the pulmonary tract are caused by exposure to sudden changes in temperature bringing about congestive conditions of the tracheal and bronchial mucous membranes, thus favoring invasion of different germs, prophylaxis is of paramount importance. Hardening of the surface by cold sponging and a rubbing afterwards to promote integumental circulation, chest-expansion by proper gymnastics and general hygienic measures are all excellent factors in preventing bronchial disorders. Once a bronchitis is established, the aim is to relieve the congestion by epispastics, diaphoretics, and diuretics. A good calomel purge given in time will very often abort an acute bronchitis, or at least benefit it in high degree. Acute catarrhal bronchitis without fever will generally yield in a few days by observance of these rules. If the disorder is combined with elevated temperature, severer lung-troubles of acute nature and a possible chronic condition must be thought of. Wet packs—from cold to warm, changed every two or three hours—are simple but, in this regard, very effective remedies. Derivatives and gentle antipyretics in combination with ammonium preparations may also be of great benefit. Quinine, sodium salicylate, phenacetin, and lactophenin often serve the purpose.

- (219) Ammon. Chlor.,
Natrii Salicyl., aa..... 12. (3 dr.)
Dionini..... 0.6 (10 grn.)
Syr. Glycyrr..... 30. (1 oz.)
Aq. Dest., ad.....120. (4 oz.)

Teaspoonful every two or three hours until relief.

- (220) Phenacetini 0.35 (5 grn.)
 Quin. Sulph. 0.15 ($2\frac{1}{2}$ grn.)
 Dionini. 0.025 ($\frac{1}{3}$ grn.)
 Dr. tal. dos. No. xii.
 One powder every two or three hours.

- (221) Ammon. Carbonat. 5. (75 grn.)
 Infus. Ipecac. Rad. (0.3) 90. (3 oz.)
 Syrupi Senegæ, ad. 120. (4 oz.)
 Tea- to dessertspoonful every two hours.

- (222) Apomorph. Mur. 0.25 (4 grn.)
 Acidi Mur. Dil. 1.25 (20 min.)
 Dionini. 0.4 to 0.6 (6 to 9 grn.)
 Aq. Dest., ad. 120. (4 oz.)
 Dr. ad vitr. nigr.
 Teaspoonful every two or three hours.

If the affection is limited to the trachea and the larger bronchi, medicated steam inhalations are often of great value. Proper solutions:

- (223) Natrii Chlorati 4. (1 dr.)
 Natrii Bicarbon. 5. (75 grn.)
 Aq. Dest., ad. 240. (8 oz.)

To this solution may be added ammon. chlor. (1:5 in 240.) and some paregoric if cough or pains are severe. Capillary bronchitis demands warm baths with cooler douches and rubbing afterwards, two or three times a day. This procedure is claimed to prevent lobular pneumonia and to promote the expectoration. The wet packings—from cold to warm—are also of excellent value. A good dose of calomel given in time will never fail to prove beneficial. In diffuse bronchitis of capillary tendency in childhood, narcotics of any kind, except chloral, are absolutely contraindicated. In the acute bronchitis of old age stimulants and heart-tonics should always be administered, and ammonia and senega preparations given freely. If arteriosclerosis is present, digitalis should be avoided.

BRONCHITIS CHRONICA.—The physician should always investigate the causes of this condition. It may be caused by the daily occupation (such as that of stone-cutter, miller, baker, or working around coal yards, woolen mills, and emery wheels); by heart or kidney disease, emphysema, or other chronic conditions of the lungs. Remove, if possible, the cause, and the morbid state will soon be ameliorated or cured. Hygienic surroundings and habits should be advised: first of all, pure and fresh air, daily gymnastics and massage, dietetic regulations, avoidance of alcoholics; constipation should be treated.

Inhalations of turpentine are of considerable value, and should be repeated several times a day. If the chronic bronchitis is of the dry type, the patient should be advised to use large amounts of warm draughts in the form of teas (elder, chamomile, etc.), warm Emser or seltzer-water

in milk. The use of potassium iodide in medium doses will often be of great benefit in loosening the dry secretion. Ipecac and apomorphine are considered the best expectorants in this type. Narcotics used should be either codeine or dionin—morphine is to be avoided in consideration of the chronicity of this disease and risk of habit. If the type is more of a bronchorrhea, different balsamics are of great value: turpentine has the first rank and may be given per os in the form of capsules, three to six a day, always followed by half a glass of milk.

- (224) Terpin. Hydrat. 0.25 (4 grn.)
 Dionini. 0.015 ($\frac{1}{4}$ grn.)
 Dr. ad. caps. tal. dos. No. xx.
 Two capsules three times a day.

- (225) Caps. Terpinol. gttss. v. (5 drops)
 No. xxv.
 One capsule three or four times a day.

- (226) Terpin. Hydrat. 8. (2 dr.)
 Spiritus, q. s. ad solutionem.
 Aq. Dest. et Syrupi, ad. 180. (6 oz.)
 Tablespoonful three times a day.

- (227) Thiocol 0.4 (6 grn.)
 Terpini 0.2 (3 grn.)
 Strychn. Nitr. 0.002 ($\frac{1}{30}$ grn.)
 Dionini 0.015 ($\frac{1}{4}$ grn.)
 M. ft. caps. tal. dos. No. xxx.
 One capsule three or four times a day.

- (228) Caps. Olei Terebinth.,
 aa. gttss. v. (5 drops)
 One to three capsules three or four times a day, followed by half a glass of milk.

- (229) Caps. Myrtoli. 0.15 (3 drops)
 No. l.
 Two capsules from three to six times a day.

- (230) Plumbi Acetat. 0.1 ($1\frac{1}{2}$ grn.)
 Dionini. 0.02 ($\frac{1}{3}$ grn.)
 Sacch. q. s.
 Dr. tal. dos. No. viii.
 One powder four times a day. (Excellent remedy in bronchorrhea with irritating cough.)

- (231) Ammon. Chlor. 4. (1 dr.)
 Tr. Sanguinariæ. 5. (75 min.)
 Dionini. 0.2 (3 grn.)
 Spirit. Æth. Nitr. 15. ($\frac{1}{2}$ oz.)
 Syr. Tolu 10. ($2\frac{1}{2}$ dr.)
 Aq., ad. 120. (4 oz.)
 Tablespoonful three times a day.

- (232) Extr. Belladonnæ. 0.25 (4 grn.)
 Aq. Amygd. Amaræ. 15. ($\frac{1}{2}$ oz.)
 Twenty drops three times a day.

- (233) Tartar. Stibiat.,
 Opii Pulv., aa. 0.15 ($2\frac{1}{2}$ grn.)
 Pulv. Tragacanthæ. 0.5 ($7\frac{1}{2}$ grn.)
 Confect. Rosæ, q. s. ut ft. pil. No. l.
 Two pills morning and night.

- (234) Balsam. Peruv. 3. (45 grn.)
 Myrrhæ Pulv. 6. (90 grn.)
 Extr. Opii. 1. (15 grn.)
 M. ft. pil. No. lxxv.
 Two to four pills every two hours.

- (235) Decoct. Senegæ (5%) 240. (8 oz.)
 Sodii Bicarbon. 10. ($2\frac{1}{2}$ dr.)
 Spir. Ammon. Anisat. 12. (3 dr.)
 Tablespoonful four times a day.

BUBO.—See Adenitis Inguinalis.

BURNS.—See Combustio.

BURSITIS PRÆPATELLARIS (inflammation of the mucous bursa of the knee).—Surgical treatment to be preferred. If patient or circumstances do not allow such a procedure, the following medication may be tried:

- (236) Ichthyoli..... 4. (1 dr.)
 Ung. Kalii Iodati, ad..... 30. (1 oz.)
 Rub in three times a day.
- (237) Ichthyoli..... 5. (75 grn.)
 Olei Ricini..... 2.5 (40 grn.)
 Spir. Æther..... 3. (45 grn.)
 Acidi Salicyl..... 1. (15 grn.)
 Collodii, ad..... 50. (12 dr.)
 Apply with a small brush once or twice a day.

CANCER.—See Carcinoma.

CARBUNCULUS.—See Anthrax.

CARCINOMA (malignant epithelial tumor).—A cancer, especially in its early stage, should never be tampered with medicinally, but as early as possible be subjected to surgical treatment. Only when the tumor is pronounced inoperable by good authorities should medicinal means be attempted, more to satisfy the patient and occupy his mind than with the expectation of real benefit. [?]

Medical aid is naturally limited to palliative methods, cleanliness, and hygienic precautions. The following formulas have claims only in such a direction. In carcinoma of the intestines:

- (238) Saloli,
 Benzo naphtoli,
 Sodii Bicarb., aa..... 10. (2½ dr.)
 Div. in partes æquales No. xxx. Dr. ad caps. amylaceas.
 One after each meal.
- (239) Extr. Opii..... 0.06 (1 grn.)
 Extr. Hyoscyami,
 Extr. Cannabis Ind., aa. 0.15 (2½ grn.)
 Butyr. Cacao, q. s. ad. supposit. unum.
 Dr. tal. supposit. No. viii.
 Insert one, two or three times a day. (Carcinoma recti.)

(TO BE CONTINUED)

PRESCRIPTION FOR CHILBLAINS

Prof. O. Lassar¹ says that he tried many combinations for chilblains, but found nothing to compare with the following formula, which he has been using since 1879:

- Diachylon Ointment 5 dr.
 Petrolatum 5 dr.
 Olive Oil 2½ dr.
 Carbolic Acid 15 grn.
 Oil Lavender 15 drops

This ointment is spread on linen and applied to the affected parts with a bandage, over night. In a short time the chilblains, even where the skin is denuded, are completely healed.

THE MANAGEMENT OF CEREBRAL HEMORRHAGE AND ITS ABORTIVE TREATMENT¹

By William Browning, M. D., Brooklyn, N. Y.

THE subject of brain-hemorrhage is one of interest to every practitioner. Most medical men, certainly those in general practice, are now and then brought face to face with such cases. Nor is there probably one of us who has not seen some relative or friend the victim of an attack.

Prophylaxis.—It may not be amiss to say a word about prevention. In fact, as in most disorders, this is the highest art. We are rarely asked about this until the occurrence of premonitions or after an attack. Nephritis should always be thought of and looked for. That and syphilis are the causes of nearly all cases up to the time of life when other signs of declining vitality are manifest, although local softening, certain conditions of the blood, and some other factors at times favor it. In persons of advanced years or those giving evidence of senility, all excessive strains, mental quite as much as physical, should be avoided. Shocks, jars, brain-tire, and severe muscular exertion are here included; while constipation, indigestion, "rush of blood to the head," insomnia, and prolonged worry are matters that must be attended to. It is well known that hemorrhagic apoplexy is not so common in extreme old age, doubtless because elderly persons are usually shielded from these severities. We may say of idiopathic cases, that the trouble arises from individuals not curbing their activities as their physical powers wane. It is our function to help our patients keep these two matters abreast. If, however, for any reason, an immediate onset is feared or there is excessive arterial tension, vascular sedatives may be temporarily in order as preventives.

The Attack.—Various factors can well be shown by illustrative cases. We need not bother ourselves too minutely with the pathology. Suffice it to know that we have to deal with a vascular rupture, and that it may be assumed to be that of an artery:

Case I.—A lady, about fifty-six years old, of heavy build but previously of robust health, essayed to walk two miles uphill, on a cold winter day, and against a very stiff wind. No scheme, perhaps, could be devised that should more thoroughly test the arteries. There was the effort of walking, of walking uphill, of struggling against a strong wind; and, in addition, the chilling of the surface by the sharp cold air and the increased impediment of weight and female dress, especially when facing a breeze. If not calculated to try men's souls, it was at least calculated to try their brains. It was not a proper thing for any person

¹ Read before the Associated Physicians of Long Island. *N. Y. Med. Jour.*, LXXV, No. 7.

¹ *Therap. d. Gegenw.*, Jan., 1902.

over fifty to attempt, and not for a good many persons under that age. The patient's arteries must have been in fair condition, for she nearly succeeded. She was approaching the summit of the last grade when she was seen to falter, lean against some support, and then sink to the ground. She was immediately taken into a house and placed in an easy position. The warm atmosphere and, in fact, the sudden change from every trying condition to the reverse, sufficed to promptly check the attack. In a few hours she was so far relieved that it was decided to move her home. Here was the second error, as the first seizure ought to have been the strongest warning. Although the patient was carried, this removal was naturally attended by some jolting, a certain amount of effort on her part, and a re-exposure to cold and wind. The result was an immediate and disastrous recurrence. This time, full hemiplegia and the deep apoplectic condition developed, from which only a slow and incomplete recovery was possible.

We can see in this course of events a very perfect play of ordinary physical forces, and the yielding of the weakest spot. Had such recklessness been avoided, she presumably might have lived long before developing apoplexy or might have escaped it altogether.

Case II.—A lady, aged sixty-six years, always in good health, had for a long period been under great mental tension, worry, and care. One morning, without marked immediate cause unless extra anxiety, she suddenly became aphasic, much agitated, and weak. She was seen within a few minutes by a physician, who placed her in a reclining position, eased the clothing, and gave, perhaps, a little calomel. The attack did not progress, all urgent symptoms seemed to subside, speech improved, and she was left with the strict injunction to remain quiet. In an hour or so, however, she rose, went upstairs to the closet—and brought on an immediate relapse. This time, paralysis of the right arm and half of the face, and more pronounced general symptoms, were added. By the prompt use of depressants this was immediately arrested, and in time a fairly good recovery made.

Here again we see that simple physical causes, viz., climbing stairs and the efforts at relief of the bowels, brought on the return of a cerebral hemorrhage just stopped. The lessons of these two cases, and similar ones are plentiful, seem so evident and clear as hardly to call for comment. It is generally held that there is little to be done in these cases, that a show of what is termed "masterly inactivity" is best, except in minor ways; in fact that the process might as well be left to run its course.

Now, on the contrary, it can not be too insistently urged that prompt and proper treatment is here of radical importance. Nowhere in the domain of medicine is there greater need of clear ideas, of revised teaching. In many cases the end may come too soon or we are too late in reaching the patient. For that, we may not be responsible; but often, fortunately, we can act to good

purpose. The author refers here strictly to the time of the seizure. It is especially in the slower, or so-called ingravescent forms, that the greatest success can be achieved.

While, in very rare cases, the bleeding vessel may be a vein, it is practically always an artery, and it is to the arterial form that his recommendations are directed. The first and main principle is the use of powerful, quickly-acting muscular and vaso-depressants. It is perfectly clear that a vessel will not bleed unless there is force behind the current to drive the blood out. Now, if you reduce that force, you just as certainly favor cessation. This depends on a mechanical axiom so simple and direct that its applicability must be evident to all. And the author has seen its effectiveness so often and strikingly demonstrated that he cannot advocate the measure too strongly. It is sometimes feared lest depressants favor cerebral thrombosis in these persons past middle life. But, used for the purposes and with the limitations here given, the author has never seen the least suggestion of harm. On the contrary, he has at times blamed himself for being too cautious.

The standard depressants still continue to be gelsemium, aconite, veratrum. The first is decidedly the author's favorite. The fluid extract should be started with a 10-drop dose, and continued in from 5 to 10-drop doses, as indicated. Gelsemium is now pretty generally available and is more convenient as well as, presumably, more exact. Begin with a dose of from $\frac{1}{10}$ to $\frac{1}{2}$ grn., and continue in $\frac{1}{20}$ -grn. doses. Aconitine is the next alternative, and is efficient. Start with from $\frac{1}{100}$ to $\frac{1}{50}$ grn., the latter dose being usually required at first. This preparation can be readily obtained for hypodermic use. Initial doses often need to be large, or else rapidly repeated until the physiological effect is produced. It is sometimes surprising how much we have to give in these particular cases before the pulse shows any yielding, especially early in the attack. After the severe apoplectic state has developed, the pulse may be anywhere.

In its most important phase—*i.e.*, during the onset and progress of the effusion—this is emergency work. We must distinguish clearly and act quickly. Much delay, even in favorable cases, and the evil is consummated. At the same time it is usually wiser and better to take a few minutes to examine and weigh the facts before resorting to active measures. A little time can thus be advantageously taken up in also arranging details of position and clothing, seeing that the extremities are warm, etc. This circumspection is the more advisable, as the methods to be employed in embolism and throm-

bosis are so directly the opposite of those in hemorrhage.

It may be asked, Why is not this plan applicable to other forms of intractable hemorrhage? It is; although rarely are the conditions so favorable. Within the brain a certain amount of outside restraint is soon encountered, and that permits us to control the outflow, short of actually stopping all current in the vessel.

The late Dr. S. E. Fuller² recommended in cases of uncontrollable hemorrhage after amygdalotomy that the patient be placed "in an upright position to encourage fainting." He cited cases, including one of his own observation, to show that fainting was a most effectual hemostatic in that condition. It was, perhaps, this work of Fuller's, more than anything else, that originally suggested to the author the principle of depressants in these cerebral cases. And McNaughton³ has recently recommended a like plan in cases of ruptured ectopic gestation sac, as against the usual methods, if any palliative means are to be attempted.

The general plan of immobilization includes other measures as well as depressants. When surroundings permit, the patient should be cared for at the place where seized, whether it be a parlor, a dining room, or a library. An embargo should be promptly placed on any interruption, noise, or disturbance. A set of cushions or a cot-mattress can be secured almost anywhere, and the patient made somewhat comfortable, even on the floor. Transportation must, if possible, be postponed until we feel confident that it is permissible. We cannot guard too carefully against an immediate recurrence from the same vessel.

Should the case be of traumatic, instead of idiopathic, origin, much the same principles hold good. A moderate use of depressants is indicated after most injuries to the head. Although there is a greater chance here that it is of sinusal or venous origin, we cannot determine this, and have to assume the usual arterial source.

A variety of other measures have been proposed for the acute condition. Some are at times in order, although not radical.

Purgatives may be needed, yet, after all, it is not well to have the patient disturbed by a bowel-movement while the ruptured vessel is still bleeding. In this respect, also, present teaching should be modified to favor temporary immobilization. Calomel, as it is somewhat of an intestinal antiseptic, rather soothing to the stomach, and not hasty in action, can most safely be given.

Phlebotomy is more than replaced by the depressants. Position is of importance, viz., reclining to an extent that fully relaxes the muscles and yet does not depress the head, and for most persons a resting on the right side. When compelled to use quieting remedies, the author recommends bromide or a coal-tar product, but never any opiate.

The use of gelatin internally, either subcutaneously or possibly by the mouth, seems to be attracting attention for its hemostatic qualities in all concealed hemorrhages. It acts simply by increasing the coagulability of the blood. For injection in the human being, 250 Cc. of a 1-per-cent. solution in normal saline fluid, is recommended. By the mouth one observer has given 200 Cc. of a 10-per-cent. solution daily, though there can hardly be any necessity for fixing such a narrow limit. Although a method of some promise for cerebral cases, it must be slower in action than that by depressants. Of course, there is no objection to essaying it as an adjuvant, if thought necessary. Should its use by the mouth be proved as efficient as when administered hypodermically, it will remain to be considered whether its continued consumption as a prophylactic in those cases where such is needed may not be in order.

Relief of Symptoms.—In the acute stage a number of symptoms often are sufficiently disturbing to need attention. For the headache that so frequently attends the attack, antipyrine or its allies in small doses does well, is also rather soothing to the stomach, and is the safest agent where plain bromides fail. Much the same applies to the special restlessness that often threatens to harm as much as any muscular effort. Still, for this, the depressants—by controlling the main process—act best. Convulsions are rare, but may call for the administration of a few whiffs of chloroform; and catheterism may be necessary to empty the bladder.

In a recent case, a day after cessation of the hemorrhage, the patient accidentally injured the nose in a way to cause a free loss of blood. Speech immediately returned and considerable relief to the head was experienced, evidently due to the local depletion. This suggests a methodical trial of nasal scarification in suitable cases.

It is also understood that, where nephritis, syphilis, or alcoholism is in play, we must remedy that factor to the best of our ability.

Don'ts.—Don't give stimulants. Their use in such cases is most reprehensible. So often we see them freely given, notably the alcoholic. The patient is prostrated, and the lay mind naturally turns to tonics and

² *Amer. Jour. Med. Sciences*, April, 1888.

³ *Transactions of the Medical Society of the State of New York*, 1901, p. 350.

bracers—about the worst thing that can be done.

Don't resort to saline injections. During the acute stage a limitation of fluids is in order.

Don't use the depressant diaphoretics, such as ipecac, pilocarpine, or apomorphine. They tend to nauseate, an inclination otherwise too common, and, in the degree of attempts at vomiting, most undesirable.

Don't prescribe digitalis. The author has repeatedly seen it bring on another attack. It is a dangerous drug in any individual with a liability to apoplexy, and for this, if for no other reason, of questionable utility in nephritics. Where anything of the sort must be used, strophanthus is far safer.

Don't resort to opiates. They are likewise contra-indicated.

Don't try nitrites, as their use in any form is here out of place.

Don't permit any muscular exertion on the patient's part; and moving by others should be limited as much as possible.

Subacute Stage.—The proper time for re-enlisting the energies of the patient is a very important, though little considered, question. When should the patient be allowed or urged to begin sitting up? This can now be determined pretty accurately. As above pointed out, it is as a rule advisable that the sufferer keep as quiet as possible for the first few days, lest further effusion occur from the same vascular rupture. In about a week, however, and sometimes sooner, we may assume that the rent has become permanently obstructed. Then it becomes of advantage to pursue the opposite course in this respect. Vascular depressants in lesser dose may be continued if the arterial tension demands it. But the patient's brain-condition is improved then by gradually getting him to sit up for brief periods. The time is increased from day to day until he is in a fully sitting position as much of the day as possible. In this way the circulatory conditions in the brain become more active and return more fully to normal, the individual's hope is aroused, there is better sleep, the remaining tracts do not fall into disuse, and we see much more satisfactory progress. Too often, especially in institutions, these people are allowed to remain listless abed, and thus a secondary dementia is favored. With the resource of depressants where indicated, this early change has proved quite practicable. The chief trouble, if the attack has been very severe, is in arranging so as to support the feeble body from gliding down again into the recumbent state. The author does not recall any case of recurrence from

this plan, and the amount of benefit marks it as a real advance in our resources.

The Chronic Stage.—The last point has reference to the state after acute and subacute conditions have subsided. It is often hopeless enough. Nature may help some. The uses of nux vomica, massage, electricity, etc., are well known, but leave much to be desired.

The chief benefit is from cultivating in the person the use of whatever power remains. It is best shown in cases of complete paralysis (monoplegias, hemiplegias). If, in such a case, we can show the patient that there is still a trace of motion somewhere in the affected part, and how to get at it, ambition is aroused and his aid secured in developing this for all it is worth, so to speak. For instance, in case of a paralyzed arm, you overextend the fingers and wrist, turn the hand and forearm on the side, so that a minimum of muscular power will suffice to cause a visible amount of flexion, and then insist on the patient making the effort. Keep at this up to a point short of tiring, until he has succeeded. Next day it goes better. This is often a great incentive to the patient to do more and to work at it on his own initiative. He has, so to speak, relearned the mental process, or regained the nerve-path, necessary to success.

TOXEMIAS AND THEIR TREATMENT¹

By L. L. Skelton, M.D.

IN endeavoring to interpret the pathological findings of blood-examinations, we must bear in mind the general principle that the normal process of evolution, when interfered with, gives place to a retrograde process of exactly the reverse order. The plasma and the corpuscles of the blood follow a definite process of genesis. Pathologic influences tend to reverse this process, and the resulting blood-changes are an index to the structure acted upon as well as the nature of the destructive agent. It is important to know the meaning of findings in blood-diseases, and to interpret correctly the therapeutic indications. The white-blood cells appear later than the red. Lymphoid tissue (glands, marrow, spleen and thymus) is the only place of white-cell development. The blood-plates are nuclei of red cell.

Various infections and intoxications may influence hematogenesis. Thus, the plasmodium of malarial fever lives upon the hemoglobin, certain chronic toxemias cause the spleen to resume its fetal function of red-

¹ *The Clinical Review*, xv, No. 1.

cell formation, the red-cells becoming nucleated; in the anemias of childhood both spleen and liver resume this function; leucemia brings about a reversion of *white* cells to the embryonic type, etc.

Our clinical varieties, lymphatic leucemia, pseudo-leucemia, lympho-sarcoma, point to a common or very similar infectious origin, the clinical picture varying with the hemic organ involved. Chlorosis is due to the failure of red cells to develop hemoglobin, and *iron in full doses* is the logical treatment, the choice of preparation being governed by individual tolerance. The typical indication for iron is the reduced hemoglobin index. In such cases iron does not cause constipation. The contra-indication to iron is high hemoglobin value.

Attention to the developmental factors—rest, fresh air, persistent treatment—are essential points, together with a diet rich in chlorophyll.

In pure chlorosis, intestinal auto-intoxication is often of secondary importance, or altogether absent, and therefore disinfectants *without iron* are *inefficient*. These cases merge imperceptibly into mixed conditions of decreased hemoglobin with auto-intoxication. Here iron alone is insufficient, and intestinal antiseptics required. Finally, there are cases of long-standing chronic auto-intoxication, in which iron is powerless, and arsenic becomes the remedy of choice. This drug should be restricted to cases where a toxic agent is present, as arsenic is harmful to normal blood. Mercury should also be limited to the anemia caused by toxemia, its antisiphilitic power being the explanation of its usefulness.

Leucocytosis is the effort of the cells to replace lost elements and neutralize the poison.

Repeated small hemorrhages cause overstimulation of the marrow and result in pernicious anemia. Persistent intoxication can lead to the same result.

The easiest way of investigating toxins in the blood is to examine the urine. Diphtheritic toxin, the poisons of septicemia, etc., have been recovered repeatedly from the urine.

Rational therapeutics must, evidently, be directed towards combating toxins, and may be thus summarized: Eliminate toxins from the blood (sodium phosphate), stimulate the liver (sodium salicylate, water, and bile-salts), clear out the intestines (castor oil, bile), stimulate the circulation (exercise, massage).

For poisons generated in the alimentary canal and chronic in character, the most

efficient remedy, according to the author, is:

| | |
|--------------------------|--------|
| Ox-gall | 2 grn. |
| Guaiacol Carbonate | 2 grn. |
| Caroid | 2 grn. |

or:

| | |
|---------------------|--------|
| Ox-gall | 2 grn. |
| Benzo-Naphtol | 2 grn. |
| Pancreantin | 2 grn. |

Ox-gall is the physiological remedy in these cases, and acts by increasing peristalsis and secretion.

Auto-intoxication is best relieved by castor oil, which seems to combine with the poisons and thus prevent their absorption. Glycerin in half-ounce doses acts nearly as well. Sodium phosphate in dram doses on an empty stomach is very beneficial when the blood is loaded with toxins. Purgation should be avoided in administering the remedy. Intestinal lavage is also highly recommended in auto-intoxication.

In the cases of infection of the hemopoietic organs (leucemia, lympho-sarcoma, etc.) no treatment has as yet been found to be of any avail. We have no antitoxin for these cases, and we cannot remove the infected organ.

THIOSINAMINE IN CHRONIC JOINT AFFECTIONS

As is well known, the chief virtue of thiosinamine consists in its alleged power to absorb fibrous or cicatricial tissue. Prof. Henry S. Upton¹ tried it in six cases of chronic joint affections. The results are not at all conclusive. Two cases were greatly improved, both so far as mobility and pain were concerned; in two cases the effect was doubtful and in two entirely negative. He administered the drug in 1-grn. doses, three times a day, after meals. He says that its use in chronic rheumatism, not against the rheumatic processes proper, but to overcome the connective tissue changes, which impair the usefulness of the joints, seems especially worthy of investigation.

FOR THE ITCHING IN SCARLET-FEVER²

Inunctions are most valuable for the itching in scarlet-fever. They may consist of carbolized or salicylated vaselin (5 to 10 grn. to the ounce), or contain ichthyol, as in the following:

| | |
|----------------|--------|
| Ichthyol..... | 5 dr. |
| Lanum..... | 10 oz. |
| Olive Oil..... | 1 oz. |

Cocoonut oil makes a pleasant emollient preparation. The oils and ointment also prevent the flying of scales during the period of desquamation.

¹ *Amer. Med.*, 111, No. 4.

² *Med. Standard*, 1901, No. 11.

Progress in Materia Medica and Therapeutics

THE PROLONGED USE OF DIGITALIS HARMLESS

What may appropriately be called a clean certificate of character is given by A. Jacobi¹ to a drug often administered by many physicians with diffidence and anxiety—namely, digitalis. He says he has learned, and has acted on that knowledge for more than a decade, that in many bad cases of dilatation of the right heart, with cyanosis and orthopnea, one, two or three doses *each* of *ten* or *twelve* grains of digitalis will contract the heart and restore pulmonary and general circulation; that in chronic conditions of weak heart of either muscular or nervous origin, or of insufficient action caused by pulmonary obstruction, small doses of digitalis—from 4 to 6 grn. daily, or its equivalent—may be given for weeks and months or even years without any hesitation. He frequently gives digitalis in such a way without seeing the patient for a month or more. He prescribes either a good fluid extract or an extract; the latter is given in $\frac{1}{2}$ -grn. doses three times a day in pill form, usually in combination with sparteine, strychnine, arsenic or other drugs, as the case may require. Combinations are indicated, he says, because the heart is not a uniform body, but a combination of muscular, vascular, cerebrospinal, and sympathetic nerve fibers, and but very seldom have we to deal with an affection of one of these parts only.

Patients taking digitalis in this way do not show any cumulative effects, nor do they get accustomed to it to such an extent as to lose the benefit of its action. Their heart requires a daily stimulation and daily doses. As mercury, the iodides, arsenic, thyroid, etc., are given for months or even years, so digitalis must be given in continued small doses when a continued effect is expected.

Besides heart disease, digitalis is exceedingly useful in all stages of phthisis. Palliative in the last stages, it is a curative factor in the first stages. The author seldom treats a case of pulmonary tuberculosis without it. By increasing pressure in the arteries, besides favoring the secretion of the kidneys, it improves the pulmonary circulation, empties the veins, and thereby accelerates the circulation of the lymph and tissue fluids. Thus, while having an immediate effect upon the heart and lungs, it exerts a powerful influence on assimilation and elimination—that is, on nutrition in general.

Also in cases of slow convalescence, in general anemia, where iron and strychnine are indicated, digitalis is likewise required. As a drug for restoring vigor and strength it is of more than symptomatic value. The author considers it one of the best tonics, along with iron, nux vomica, and arsenic, when given in small doses persistently. Similarly in chlorosis, the author never fails to add digitalis to the iron and the mild vegetable purgatives. All forms of chlorosis are benefited by it, the common as well as the severe form described by Virchow and Germain Sée. In this latter form the heart may be normal in size, but its structure is generally feeble, the arteries are small and do not provide sufficiently for organic nutrition. From what was said above, it will be seen that digitalis cannot fail to be beneficial in this condition.

The author emphasizes the importance of not exceeding the doses recommended by him in cases where the digitalis is to be given for a very long period. The moderate doses have only a moderate action on the blood-vessels. That is important to know, because large doses may contract the small arteries to such an extent as to increase the work of the heart in its endeavor to overcome the increased peripheral resistance. [For this reason many clinicians seldom give digitalis without ordering at the same time some vaso-dilator, like nitroglycerin.—ED.] Of course, if given in too large doses or too frequent intervals, digitalis will produce toxic effects: nausea, vomiting, retarded or irregular pulse and collapse; but this is true of every potent drug, and does not militate against the author's method, a very large dose repeated once or twice, and small doses for very long periods.

DIGITALIN IN CIRCULATORY DISEASE

In connection with the preceding abstract, it will be interesting to read an article by Dr. Geo. O. Jarvis¹ of Philadelphia, in which the writer criticizes, not Prof. Jacobi's views, but the form in which he administers the digitalis. He writes as follows:

"I notice in the *Medical Record* (October 19, 1901) that Dr. Jacobi, of New York, recommends the use of digitalis in small doses over long periods of time. He places chief reliance on the fluid or solid extract, giving of the latter $\frac{1}{2}$ to $\frac{3}{4}$ grn. to an adult. It is, as he says, only to be expected that

¹ *Med. News*, LXXX, No. 2.

¹ *Internat. Med. Magazine*, Jan, 1902.

heart trouble of years' standing should require prolonged treatment. Another excellent point brought forward in his remarks is the advisability of treating chlorosis by the addition of digitalis to the iron as ordinarily used. This is in accord with the well-known fact that the circulation in chlorotics is deficient. This deficiency is due to three possible factors: (1) A hypoplasia of the blood circulatory system; (2) general muscular weakness; (3) a lesion in the blood itself.

"I would state, however, that digitalin is superior to digitalis for these purposes. Digitalin is a definite standard preparation upon which great reliance can be placed. This is notably not the case with the crude preparations of digitalis commonly used. Digitalin 'German,' as prepared by Merck, does not upset the stomach, when given for months, in doses of from $\frac{1}{10}$ to $\frac{1}{4}$ grn. It has a definite stimulant action on the involuntary muscle of the heart and small vessels, as well as upon the corresponding structures in the walls of the veins. This action is direct and sure, contrasting with the effect produced by the whole drug. In the whole drug there is taken a combination of glucosides, some of which oppose the action of others. This is undesirable for the reason, if no other, that their *quantities and interactions cannot be known*. Digitonin, for instance, has an action comparable to veratrum viride: not a desirable thing to give patients near death from failure of the circulation.

"Dr. Henry Beates, of Philadelphia, among others, has long insisted upon this point. He is an advocate of accuracy in therapeutics and has done a considerable amount of work designed to put the use of the 'German' digitalin in circulatory disease upon a firm and reasonable basis. It is unnecessary to mention the principles of digitalis and their several actions, for this information can be found in any up-to-date therapeutic publication; but it is proper to insist upon the antagonistic action and uncertain quantities of the several glucosides contained in the whole drug. It is more reasonable to give cinchona bark in malaria than to use crude digitalis in circulatory disease."

PURE ICHTHYOL IN DERMATOLOGY

Dr. Menahen Hodara,¹ of Constantinople, has used pure undiluted ichthyol in the treatment of skin-diseases. He first tried it in furunculosis. Ichthyol was thickly painted on the furuncles, which rapidly became softened and soon afterward burst.

Every day the old ichthyol is washed off and a new layer applied, after washing away the pus. The same method was equally successful in sycosis barbæ and folliculitis of the scalp. Several cases of impetigo vulgaris, ecthyma, and eczema impetiginosum were also treated very satisfactorily with pure undiluted ichthyol.

SUPRARENAL EXTRACT IN CARDIAC CONDITIONS

Dr. W. E. Deeks¹ writes on this subject, and reports two cases exemplifying the therapeutic value of suprarenal extract when other remedies had failed. One patient was a woman aged eighty-two, suffering from mitral insufficiency with swollen extremities, gastric irritability and other symptoms of cardiac failure. She had been treated with digitalis, caffeine, strophanthus, etc., with unsatisfactory results. *Suprarenal extract was given in 3-grn. doses, thrice daily after meals. Prompt and continuous improvement followed, the edema disappeared, vomiting ceased, and the patient could soon resume her walks.

Another case, rather obscure in character, also well illustrates the efficiency of suprarenal. The patient, a man of seventy-six, was affected with swollen feet, and a cardiac cause was suspected. The usual heart-tonics failed to give relief, until suprarenal extract was tried, and almost immediate amelioration resulted. Six weeks later all edema was gone. The author emphasizes the tonic influence of the remedy on the vascular system.

INSOMNIA AND ITS TREATMENT

The importance of sleep cannot be overestimated. Hence the serious attention paid to conditions of insomnia. A good deal may be accomplished in combating sleeplessness by dietetic and hygienic measures. A quiet bedroom, good ventilation, early suppers, avoiding exertion in the evening, regular evacuation of the bowels, are all of prime importance in treating this often obstinate condition. Psychic influence is of value in neurasthenic and insane patients. Anemic and debilitated persons require good nutrition, a rest-cure, with massage and general faradization, etc. Protracted warm baths, galvanic currents to the head towards evening, mild cold-water treatment in the morning, elevation of the head in cases prone to congestions, and local cold applications to the head, are all valuable measures in suitable cases.

Only too often, however, do these simple methods fail completely, and recourse must

¹ *Monatshfte f. Dermatol.*, 1901.

¹ *Montreal Med. Jour.*, XXX, No. 11.

then be had to drugs. Dr. Joseph Bodenstein¹ briefly reviews the general hypnotics, and shows that most of them have serious drawbacks. The opiates weaken the system and lead to the drug-habit: chloral hydrate is also strongly toxic and sometimes precipitates eruptions, gastric disturbances, and other untoward symptoms; chloralamid and amylene hydrate are similar in action to chloral; paraldehyde causes rapid habituation and requires an increased dosage, thus leading to an intoxication analogous to the alcoholic; finally, sulfonal also occasionally produces toxic phenomena. All this, states the author, enjoins caution in the use of our established hypnotics and a new efficient hypnotic ought to be warmly welcomed. Such is dormiol, a clear liquid, having an aromatic odor and possessing but weak toxic properties, as proved by comparative experiments.

The author has used dormiol in forty-two cases with marked success, especially in simple nervous insomnia, but also in the insomnia of tuberculosis, syphilis, gonorrhea, heart-disease, night-terrors, measles, etc. He formulates his conclusions as follows:

Dormiol is a reliable, harmless hypnotic, free from after-effects, readily taken, and well tolerated by children and adults. The dose for an adult is 1 to 6 teaspoonfuls of a 10-per-cent. solution in the evening; for children, proportionately smaller doses. One or two hours later its hypnotic action is manifested. Or, the drug may be given in doses of $\frac{1}{2}$ to $1\frac{1}{2}$ teaspoonfuls (of the 10-per-cent. solution) two to four times in the course of the afternoon and evening. No toxic symptoms need be feared and the drug may be given to the weakest patients. It can be administered over long periods of time, a feature of great importance in treating insomnia. It is second to no other hypnotic and possesses many advantages of its own, thus ranging foremost in our hypnotic armamentarium. The author reports in detail a number of cases, illustrating the reliable and safe effects of dormiol.

According to Dr. M. A. Stern,² dormiol is one of the most efficient modern hypnotics. The author has used it in fifteen cases and comes to the following conclusions:

(1) Dormiol is an efficient hypnotic, free from any deleterious action on the heart or respiration (thus possessing an advantage over chloral hydrate), and free from the repulsive odor and taste of paraldehyde and amylene hydrate. Sleep ensues one-half to

one hour after the ingestion of a sufficient dose, which is 2 to 4 dr. of the 10-per-cent. preparation, according to the author. The average duration of sleep is five to eight hours. No untoward effects on the system have been recorded.

(2) The sleep from dormiol is deep, refreshing and natural, not followed by headache, nausea, loss of appetite, or any gastrointestinal disorder. Pulse, temperature, and urine remain unchanged by the drug.

(3) Sleeplessness due to pain is not amenable to the remedy, and in such cases it must be combined with analgesics.

UROL IN URIC-ACID DIATHESIS

Urol is chemically quinate of urea: it is soluble in water and in dilute alcohol. Prof. v. Noorden¹ administered the combination to ten patients, four of whom suffered with gout and six with renal calculi of uric-acid origin. The dose ranged from 30 to 75 grn. daily, half of which was given in the morning on an empty stomach, the other half at night, on going to bed. The dose was dissolved in about 6 oz. of hot water. The results in three cases were so good that the author recommends the remedy for further trial.

OIL OF CADE IN PSORIASIS

Dr. F. Balzer² writes on the use of oil of cade in the form of baths in the treatment of psoriasis. After numerous experiments, the quantity of oil to be used in each bath has been estimated at about 2 oz., to be increased to $3\frac{1}{2}$ oz. if well borne. At first the author mixed the oil with a solution of green soap, thus forming an emulsion, which was added to the bath-water. Recently he has modified the method and uses the following preparation:

| | |
|-----------------------------|--------------------|
| Oil Cade..... | 2 oz. |
| Fluid Ext. Quillaia..... | $2\frac{1}{2}$ dr. |
| Yolk Egg..... | 1 |
| Distilled Water.....to make | 8 oz. |

The yolk is first placed in the mortar, then the oil slowly added. A few drops of quillaia are added from time to time and finally the emulsion is mixed with the water. The bath should last from a half to one hour, and be accompanied by mild friction over the psoriatic patches. According to the indication, the bath may be repeated daily or every two days, increasing the dose of oil for each bath to about $3\frac{1}{2}$ oz. The results obtained have been very encouraging, not only in psoriasis, but in similar cutaneous affections as well.

¹ *Deut. Aerzte-Zeitung*, 1901, No. 19.

² *Vratcheb. Gaseta*, VIII, No. 35.

¹ *Centr. Stoffwechsel u. Verd.*, 1901, No. 17.

² *Bull. gén. de Thérap.*, CXLII, No. 19.

LACTANIN

Lactanin is a combination of bismuth and lactic and tannic acids: bismuth dilactomonotannate. It forms a yellow powder, odorless, tasteless, and insoluble in water. Dr. Moncorvo¹ found it useful in diarrheas of nursing infants, acute and chronic enteritis, also in tubercular diarrhea in children. He prescribed it usually as follows:

Lactanin.....30 to 45 grn.

Syrup Acacia10 dr.

Shake well. Teaspoonful three to five times a day.

TINCTURE OF IODINE IN ACUTE TONSILLITIS

Dr. S. Fioersheim² extravagantly praises tincture of iodine as an application in acute tonsillitis. He says that the results in his hands have been marvelous. The method of application is simply to saturate a long camel's-hair brush with the official tincture of iodine, full strength, and rapidly brush over the inflamed area—i. e., tonsils, pharynx, uvula, fauces, etc. If the patient experiences intense burning after two minutes, a gargle of plain warm water should be used. If no burning sensation is experienced, the tincture is usually applied a second time, in three to four minutes after the first application. The author's conclusions are as follows: (1) The tincture of iodine is the most powerful antiphlogistic in inflammations of the throat. (2) Its action is very rapid, relief being often experienced within five minutes. (3) It has relieved the intense inflammation completely when all other throat remedies had absolutely failed to benefit. (4) Its use in sixty-eight cases of acute amygdalitis has been followed by marked benefit in every case.

[We know of several cases in which the tincture was used exactly as described by the author. In some cases there was moderate relief, in others the results were entirely negative, while in one case the condition became very much aggravated.—ED.]

NERVOCIDINE: A NEW LOCAL ANESTHETIC³

Nervocidine is the active principle of an Indian plant called gasu-basu. It is a yellow, amorphous, hygroscopic powder, easily soluble in water, less soluble in ether and alcohol. Its aqueous solution froths when shaken and gives all the reactions of an alkaloid. It has been tried as a local anesthetic and has been found to possess very strong anesthetic properties. Its action is very prolonged; for instance, the effect of a one-half or even one-fifth per cent. solution

may last for two or three days. It has, however, some drawbacks, such as the local irritation to which it gives rise, the slow production of the anesthetic state (from ten to twenty minutes being required), and strong toxic by-effects: nausea, salivation, vomiting, etc. So far its use has been restricted to dentistry, especially as a substitute for arsenous acid in the treatment of painful pulpitis.

THE TREATMENT OF SCARLATINAL NEPHRITIS

In the treatment of scarlet-fever, says Dr. F. Huber¹, the parents should be given to understand that the physician's duties are not over with the disappearance of the rash and the relief of other symptoms. During the stage of desquamation there is the great danger of a nephritis. The urine ought to be examined daily, and rest in bed enforced. The diet should be fluid, and water given at regular intervals. If the case is seen early, and the urine is scanty and dark, plain or carbonated water with a little bitartrate of potassium may be given frequently, and will often produce diuresis. Elimination through the skin and the bowels should be encouraged, but not simultaneously, for these organs are antagonistic in their functions. In the acute inflammatory state of the kidney, irritant diuretics are contra-indicated. Water, with or without cream of tartar or the other vegetable salts of potassium, should be given freely.

Flushing the colon with hot normal salt solution, introduced high up the rectum through a colon tube, will dilute the toxins and cause diuresis. Some favor the subcutaneous use of water by means of hypodermoclysis.

Calomel, $\frac{1}{20}$ to $\frac{1}{10}$ grn. every hour, is useful as a gastric sedative, a diuretic and a laxative. It may be continued for many days, stomatitis being a rare complication. Ammonium carbonate in small and frequent doses is serviceable in severe dyspnea or threatening pulmonary edema. Dry cupping and strychnine may also be employed in such cases. Convulsions indicate hot packs, chloral per rectum, and salt water irrigations. In coma, the caffeine-sodium benzoate may be given hypodermically as a stimulant and diuretic. Renal hemorrhage is treated by hot applications over the loins, mustard plasters, and absolute rest. Hot-air baths and hot packs are useful in great edema and dyspnea. Alcohol is contra-indicated, but in severe cases dram doses of cold champagne and ice every ten to thirty minutes have tided the patient over the critical moment.

¹ *Nouv. Remèdes*, 1901, No. 13.

² *N. Y. Med. Jour.*, No. 1192.

³ *London Lancet*, Jan. 11, 1902.

¹ *Pediatrics*, XII, No. 12.

Desperate cases recover frequently. As to convalescence, the patient must be kept in bed or at least indoors until all albumen disappears from the urine. The anemia calls for iron, and the myocardial weakness for strychnine in suitable doses. Water, or carbonated water, should be given freely, and diet ought to be light and digestible.

ICHTHYOL IN PULMONARY TUBERCULOSIS

Ichthyol has been employed frequently in the treatment of pulmonary tuberculosis, with gratifying results. Dr. A. Mostkoff¹ has used it for a period of more than two years in this disease, administering it diluted with an equal quantity of water, in doses of 5 to 20 drops, thrice daily, in wine or black coffee as a vehicle, after meals. Symptoms of intolerance on the part of the digestive organs were not observed, and the author concludes that ichthyol is perfectly non-toxic. Fifty cases, all told, are recorded. The treatment was a distinct success. The appetite improved under the use of the remedy, the patients often gained in weight, the annoying night-sweats were relieved, the cough was quieted and fever reduced.

Ichthyol, according to the author, may be recommended as an efficient substitute for creosote and its derivatives in the treatment of pulmonary tuberculosis.

THE TREATMENT OF PNEUMONIA IN CHILDREN

The therapeutic management of pneumonia is still largely a matter of personal preference, the one advocating energetic interference, the other maintaining a watchful neutrality. Remedies which were vaunted as specifics have left only disappointment behind, and a symptomatic treatment is as yet our mainstay [and will probably remain so for a long time to come].

The indications and dangers of croupous pneumonia, says Dr. Paul Heim², are different in children from those in adults. Thus, alcoholism is responsible for grave complications in the latter, while the tendency to convulsions is peculiar to the former.

The author outlines as follows his method of dealing with the disease: First of all, the air of the sick room should be pure and moist. For this purpose water may be kept evaporating in the room. The diet is of great importance. It is not necessary to limit the patient to fluids. He may be allowed scraped meat, soft-boiled eggs, young poultry, etc. Alcohol is a valuable stimulant, and good wine, brandy, or champagne should be given in appropriate doses

three to four times daily. The mineral waters may be permitted freely to quench the thirst. The fever is best treated, in the opinion of the writer, not by hydrotherapy, but by lactophenin in doses of 5 to 15 grn., two to three times daily. Infants may be given quinine per rectum, combined with chloral in case of convulsions. The chest should be enveloped in cloths wrung out of cold water, and these applications changed every one to two hours. Severe pain in the chest is treated with ice-bags or morphine. Grave nervous symptoms are an indication for cool baths, with the addition of a handful of mustard when there is a tendency towards asphyxia.

For heart-weakness, camphor and caffeine are valuable, or digitalis when failure of the right heart is evident.

In pulmonary edema the author strongly recommends prompt venesection, even in infants. Besides, caffeine, camphor, and oxygen by inhalation are all efficient. When moist râles are present, strong expectorants, like senega and ammonia, are indicated. The nutrition should be reinforced by concentrated artificial foods.

MENTHOL-IODOLE IN RHINOLOGY

Iodole, which is chemically tetraiodo-pyrrol, has been known for several years as a good antiseptic, non-irritating, tasteless and practically odorless. A number of rhinologists have used it with good results in ozena, hypertrophic rhinitis, etc. The addition of 1 per cent. of menthol to finely powdered iodole increases and improves the therapeutic action of the latter. Dr. Alois Joris¹ has employed this combination for over a year and is satisfied with the results. He says that the addition of the 1 per cent. of menthol takes away the last trace of disagreeable odor from the iodole and also produces a very refreshing and analgesic effect.

TACHIOL: A NEW ANTISEPTIC

This new antiseptic is nothing more nor less than silver fluoride, and why it should have been burdened with a new name we do not know. However, its antiseptic powers seem to be remarkable. It was reported upon before the Royal Medical Academy of Rome by Prof. Durante². In solution of 1 in 150,000 it kills in the space of one minute the most resistant pyogenic organisms, such as the staphylococcus pyogenes aureus. A solution of 1 in 200,000 was found sufficient to kill the typhoid bacilli in one minute; a solution of 1 in 1,000 is sufficient to

¹ *Allg. med. Central-Zeit.*, 1901, No. 76.

² *Therap. Monatsh.*, xv., No. 11.

¹ *Klin.-therap. Woch.*, viii, No. 15.

² *London Lancet*, Feb. 8, 1902.

kill completely, in twenty to thirty minutes, anthrax spores, which resisted steam for fifteen minutes. The toxic power of silver fluoride is much feebler than that of other antiseptics. Clinically the drug was tested on a large scale in different surgical affections. For disinfecting suppurating cavities and sinuses, etc., solutions from 1 in 1,000 to 1 in 100 were used; in cystitis and endometritis, solutions of 1 in 5,000 or 1 in 10,000 were employed. The results were very satisfactory. In some cases of tuberculous disease with fistulous sinuses, gradual healing and complete obliteration took place; in others associated with suppuration, the discharge lost its purulent character and a remarkable improvement took place in the local condition. It also gave excellent results in experiments on animals inoculated with virulent anthrax bacilli. In these cases the silver fluoride was given hypodermically.

THERAPEUTICS OF DIONIN

Dr. Anton Zirkelbach¹ reports some observations on the curative value of dionin. The necessity of a substitute for morphine has long been felt, and codeine, heroin, etc., were offered to the profession as being free from the untoward by-effects of morphine. Dionin is the latest product of this kind: it is a white, odorless, somewhat bitter crystalline powder, easily soluble in water or syrup, and thus suitable for children and hypodermic use. The new drug has been employed in a large variety of affections. Respiratory diseases, with dyspnea and cough-irritation, as phthisis, asthma, etc., lend themselves especially well to treatment with dionin, the cough being relieved and expectoration promoted. Dionin is more efficient than codeine, and is equal in effect to morphine, while remaining free from the disadvantages of the latter.

The analgesic action of dionin has been observed in various diseases, as pleurisy, carcinoma uteri, parametritis, locomotor ataxia, gall-stones, gastric ulcer, etc. Others praise the narcotic action of the drug, and the quiet, restful sleep of several hours' duration which it produces.

There is unanimous evidence pointing to the absence of any habituation to the drug, and this feature has suggested its use in the treatment of morphinism. The dose of dionin ranges from $\frac{1}{3}$ to $\frac{2}{3}$ grn., three or four times daily. Solutions of 1 to 8 per cent. may be employed subcutaneously, but this mode of administration sometimes causes unpleasant symptoms, like itching

and burning all over the body, increased pulse-rate, etc. The action of $\frac{1}{3}$ grn. of dionin is equal to the effects of $\frac{1}{8}$ grn. of morphine.

In the author's personal experience, dionin has shown itself efficient in combating cough-irritation, dyspnea, and pains of different origin. It is also a valuable hypnotic. The diseases in which the drug was used are pulmonary tuberculosis, pneumonia, pleurisy, emphysema, asthma, heart-disease with dyspnea, gastric ulcer, locomotor ataxia, and others.

The author considers dionin to be the best substitute for morphine known.

CASSIA BEAREANA: AN AFRICAN REMEDY FOR BLACKWATER AND BILIOUS REMITTENT FEVER

Dr. D. R. O'Sullivan-Beare¹, British vice-consul in Pemba, East Africa, writes of the properties of this plant, which seems to be a specific in blackwater fever. The natives use the plant as follows: They chop a portion of the root into pieces, each about 1 inch in length, and of these pieces they boil about a dozen in a gallon of water for half an hour or so. This yields a red-colored liquid, which the patient drinks either hot or cold as often as he feels thirsty. It is apparently non-poisonous and may be consumed in any quantity. The doctor sent a quantity of the drug to London and had a fluid extract prepared from it (the menstruum being water, 25 per cent. of alcohol being added to the finished product for the purpose of preservation); this fluid extract he used in dram doses, and higher, instead of the decoction, and with apparently similarly good results. The bark of the plant is used by the natives in powder form as an application to ulcers, seemingly with good results. [The plant belongs to the genus *Cassia*, Nat. Ord. *Leguminosæ*. It has been named *Beareana* in honor of the author, who first brought it to the attention of the civilized world.]

THE TREATMENT OF BUBO

The treatment of bubo, says Dr. A. H. P. Leuf², is preventive and curative. In syphilitic bubo specific medication is indicated.

The preventive management of bubo requires rest, opening of the bowels, and cauterization of the specific sore by means of nitric acid or the actual cautery, after anesthetizing the ulcer with cocaine powder or pure carbolic acid. Suppuration may be prevented by rest in bed and the use of

¹ *Orvosi Hetilap*, Budapest, XLV, No. 37.

¹ *London Lancet*, No. 4092.

² *Med. Council*, Dec., 1901.

an application, the formula for which is as follows:

| | |
|---------------------------|-------|
| Ichthyol..... | 2 dr. |
| Fl. Ext. Belladonna..... | 2 dr. |
| Tinct. Aconite..... | 2 dr. |
| Fl. Ext. Witch-hazel..... | 2 dr. |

Apply locally several times daily.

Tincture of iodine may at the same time be painted *around* the swollen gland, not over it. Poultices are often serviceable. The most efficient drug remedy in suppurative conditions is calcium sulphide, given in doses of $\frac{1}{10}$ grn. every hour as a preventive, and three or four times this amount after suppuration is established. Inevitable suppuration is, however, best treated by excising the glands.

In opening a bubo a thorough incision and evacuation is necessary. A suppurating bubo is treated like any other suppuration, with antiseptic and stimulating washes, such as potassium permanganate, or carbolic acid in 5 to 10 per cent. strength, or with balsam of Peru. Syphilitic bubo responds promptly to mercurial treatment. The constitutional measures are directed towards preserving the patient's strength.

GLUTON: A NEW DIETETIC PREPARATION

Dr. H. Brat¹ reports on a new dietetic preparation with the above name. It is a yellowish-white powder, belongs to the class of gelatoses, and is prepared by the action of acids on gelatin at a high temperature, for several hours. The acids are neutralized, and the dialyzed and filtered product is evaporated to dryness and reduced to powder. It is added to soups, bouillons, and other liquid preparations, and the author claims that it is very nutritious and easily digested. The substance is easily soluble in water and does not gelatinize even in concentrated solutions.

ACETANILID POISONING

Dr. F. T. Stewart,² reports two cases emphasizing the necessity of caution even when using acetanilid externally. The first patient had sustained an extensive burn of the left lower extremity. The doctor covered the raw surface with Thiersch's skin grafts taken from the right leg and thigh, and asked an assistant to dress the right limb while he completed the left. Early the next morning the patient became cyanotic, collapsed, and became unconscious. On investigating the cause for such an alarming episode he learned that the right leg had been copiously dusted with acetanilid.

The second patient was a baby, aged four

months, suffering from intertrigo of the scrotum, buttocks, and thighs. A neighboring physician advised a liberal application of the following powder: Calomel, $\frac{1}{2}$ dr.; bismuth subnitrate and acetanilid, of each, 2 dr. The following day intense cyanosis developed. With the first case fresh in mind, the cause of trouble was easily found.

Both cases reacted readily. The doctor says that in aseptic cases acetanilid has no place; in septic cases there are more efficient, less dangerous agents at command.

SPINAL ANALGESIA WITH TROPACOCAINE

The discovery of medullary anesthesia by means of intraspinal cocaine injection has led to numerous experimental researches. To obviate certain drawbacks of cocaine, various substitutes have been used tentatively, as eucaïne, tropacocaine, etc.

Several authorities who have used tropacocaine claim that it is comparatively much less toxic than the other derivatives of cocaine, and some even assert that the drug is perfectly non-toxic. Schwarz, who has employed Merck's tropacocaine, was able to obtain complete analgesia with $\frac{5}{6}$ grn. of the drug, so that herniotomies, urethrotomies, and operations for hemorrhoids could be performed painlessly and without difficulty. The analgesia lasted up to two hours, and no untoward phenomena like pallor, nausea, vomiting, headache, vertigo, or fever were observed.

Dr. F. Neugebauer¹ has used tropacocaine extensively and obtained equally gratifying results, and considers the skepticism of the profession towards spinal anesthesia without good foundation, at least so far as tropacocaine is concerned.

The cannulas used by the author were 7 Cm. long. Shorter instruments may be thwarted in their action by edematous conditions of the back. Occasionally the cannula will enter the spinal canal and no fluid will flow. By instructing the patient to cough, the difficulty is often overcome in such emergencies. Some dexterity and practice is necessary in the insertion of the needle, and it is advisable to anesthetize the chosen site of injections by means of cocaine or Schleich's solution. It is further evident that the slightest antiseptic or aseptic oversight may lead to the greatest consequences in this particular field of operation. The solution of tropacocaine should be rendered sterile by thorough boiling.

The injection is best given in the reclining position, the patient lying on one side; symptoms of analgesia appear very promptly, often in one minute after injection, and

¹ *Deut. med. Woch.*, Jan 9, 1902.

² *Phila. Med. Jour.*

¹ *Wien. klin. Woch.*, xv, Nos. 50, 51 and 52.

are first noticeable on the perineum, gradually spreading to the nates, the thighs, the feet, then the leg, and finally, the abdomen.

The posterior surface of the legs seem to become analgesic before the anterior parts, and this phenomenon is undoubtedly due to the patients lying on the back, as has been proven experimentally by placing the patient on his belly before the injection. The depth of analgesia varies considerably and so does the duration. The patients retain full consciousness and do not as a rule complain of discomfort. Nevertheless, very excitable individuals, or those in a condition of stupor, are hardly suitable subjects for the method.

As to dosage, the smallest quantity of tropacocaine used was a little over $\frac{1}{2}$ grn. In most cases 1 grn. was injected, and in a few $1\frac{1}{2}$ grn. Doses under $\frac{5}{8}$ grn. do not produce sufficiently deep or lasting analgesia of the scrotum and lower abdomen to render painless operations in these regions possible. Larger doses, up to $1\frac{1}{2}$ grn., anesthetize more completely and extensively, even as far up as the nipples and still higher. The toxic effects of the drug are, however, opposed to such bold dosage. Even lower quantities, under 1 grn., produce occasionally transient, undesirable symptoms as headache, fever, vomiting, and even paralysis of the legs and the anal sphincter.

In view of this, the author considers 1 grn. as the upper limit in dosage. Some individuals show an unmistakable idiosyncrasy to the drug, and, generally speaking, the efficiency of the injection cannot be predicted beforehand, being largely a matter of the patient's constitution and condition.

In two cases more than one injection had to be given, the second one producing the desired effect. With the exception of a rise of temperature, no evil consequences followed. The injections were also in some cases repeated on following or even consecutive days with complete success.

The author considers tropacocaine in quantities of $\frac{5}{8}$ to 1 grn. to be a certain and safe analgesic for the lower extremities, the perineum and its immediate surroundings. The drug's action on more highly situated regions is, on the other hand, very inconstant and unreliable. For the purposes of a laparotomy the method is decidedly uncertain, but all in all it is a valuable addition to our anesthetic armamentarium.

The following are some of the operations performed by the author under tropacocaine analgesia: Bassini's operation for the rad-

ical cure of hernia, excision of inguinal bubo, colporrhaphy, and ventrofixation for retroverted uterus with prolapsed vagina, operations for hydrocele, phimosis, anal fistula, hemorrhoids, and cancer of the rectum, transplantation in a case of burns, caries of the metatarsal bones and the toes, purulent periostitis of the femur, genu valgum, purulent prepatellar bursitis, necrosis of the tibia, compound fracture of the malleolus, etc. Sixty cases are reported in detail.

CEDRON IN YELLOW FEVER

The Marine Hospital Bureau has issued a bulletin as to the use of cedron seed in yellow fever, as practised by Dr. S. H. Hodgson,¹ of the Navy.

Dr. Hodgson says that a tincture or fluid extract of the seed of cedron is made by many persons in Central and South America and given as a specific antidote to persons suffering from stings or bites of insects or snakes. While at Jiminez, Costa Rica, he attended nine laborers who had yellow fever. He gave them a tincture of the cedron seed. This tincture he made himself. It was of uncertain strength. He employed hypodermic injections of about 20 min. three times a day. All the patients recovered. The drug promptly relieved the headaches and stopped the nausea. He firmly believes that this remedy will cure yellow fever.

GUAIACOL IN LARYNGEAL TUBERCULOSIS

The number of remedies recommended in laryngeal tuberculosis is legion. Lactic acid is one of the most popular and efficient, though by no means infallible. Guaiacol, says Professor J. Homer Coulter², is more reliable than any other therapeutic agent as yet suggested.

The author employs a solution of 20-per-cent. strength to begin with, and rapidly increases the strength up to 80 per cent., or even to full strength. Every other day a submucous injection is made, the mucous surface having been previously cleansed with a warm alkaline spray, and a local anesthetic of holocaine and antipyrine (1 per cent. of the former and $1\frac{1}{2}$ per cent. of the latter) applied by swab or spray. In this way no pain will be complained of, the patient experiencing only a transient burning sensation after the first treatment.

The results obtained are such as to encourage the further use of the remedy.

¹ *Med Times*, XXIX, No. 10.

² *Chicago Clinic*, XIV, No. 11.

INTERMENSTRUAL DYSMENORRHEA

Intermenstrual dysmenorrhea, or "Mittelschmerz," is an interesting phenomenon, the literature of which is not extensive. Dr. Annie Watson¹ reports the case of a married woman, aged thirty-six, who suffered severely from this affection. The "Mittelschmerz" begins fourteen days after a period, and lasts for three days. The spasms are like ordinary dysmenorrhea, but there is no discharge. Examination revealed a large and fissured cervix, showing patches of granular erosions. This condition yielded to a four weeks' course of treatment with hot douches, ichthyol plugs, and 10-per-cent. ichthyol in glycerin, applied to the erosions by means of Playfair's probe. After the erosions were healed, the pains ceased and did not recur.

In almost all cases of intermenstrual dysmenorrhea some local lesion will be found to be responsible for the disorder.

OREXINE TANNATE

Dr. Carbonell y Soles² recommends orexine tannate as a stomachic. He says that it is devoid of all disagreeable properties, and is nevertheless able to increase the appetite and promote digestion in the most surprising fashion. It appears to act by augmenting the flow of gastric juice and incidentally of hydrochloric acid. Its chief indications are in primary anorexia, in the loss of appetite which occurs in various constitutional diseases, in convalescence from acute diseases, etc. It is also a valuable gastric sedative, useful in the vomiting which follows chloroform anesthesia, and also in various forms of vomiting that do not originate in gastric ulcer, hyperchlorhydria, or disease of the nervous centers. The drug is contra-indicated in these latter maladies.

SUPRARENAL EXTRACT AS A HEMOSTATIC

Suprarenal extract has been highly recommended as a potent hemostatic in bleeding from various organs. Dr. W. T. Thomas³ reports two cases in which the remedy proved efficient after all others had failed. In the first case, an infant aged thirteen months fell and had his lips torn from the upper jaw. Severe bleeding took place, and notwithstanding the fact that the wound was packed with gauze, the hemorrhage recurred and resisted all measures, including sutures, for three days. Finally the wound was packed with gauze impregnated with powdered suprarenal extract,

and 1 grn. of extract was given internally every four hours. This treatment succeeded in stopping the hemorrhage.

The second patient was a bleeder, who had slightly cut his finger. The hemorrhage was obstinate, and recurred after each change of dressings, until a week later the wound was dressed with gauze impregnated with powdered suprarenal extract, and 5 grn. of extract were given by mouth every four hours. The bleeding soon ceased. The house surgeon of the hospital was so impressed with these two cases that he tried the remedy in a case of hemorrhage after tonsillotomy, with signal success.

TREATMENT OF PULMONARY TUBERCULOSIS

An important indication in the auxiliary treatment of pulmonary tuberculosis, says Dr. Stubbert¹, is to control cough and expectoration. One of the best remedies for the harassing cough is *suggestion*. Patients who are impressed with the idea that it is a mortification and, perhaps, a betrayal of their condition, to cough, learn to restrain the irritation. Still, sedatives may have to be conceded at first, and here the author strongly condemns all cough-syrups. Any other vehicle for opium is preferable to these. It is advisable to avoid morphine, using codeine or heroin instead. The author prescribes $\frac{1}{4}$ grn. of codeine or $\frac{1}{12}$ grn. of heroin at bedtime, or two to three times daily.

Inhalations are another potent factor in controlling excessive cough and expectoration. A hot-air inspirator (Underwood) and the nebulizer are very serviceable for the purpose, to be used once or twice daily, as hot as can be tolerated. In the nebulizer, solutions of menthol, creosote, alcohol, etc., may be dropped; for the hot-air inhaler a combination of ichthyol and gum-camphor is efficient.

Camphorated oil, terebene, eucalyptol, $2\frac{1}{2}$ drams to the ounce of vehicle, and of this 2 to 10 drops at a dose, for the nebulizer, or:

| | |
|---------------|---------------|
| Menthol..... | 15 grn. |
| Camphor..... | 15 grn. |
| Albolene..... | to make 1 oz. |

The laryngeal complications require careful and persistent treatment, and the advice or aid of a specialist is very desirable.

As to the specific treatment of tuberculosis, there is none. Tuberculin, antitubercle serum, etc., are not specifics. Still, the serum is a valuable adjuvant to Nature's attempts at a cure, and may be given hypodermically in doses of 5 to 30 min. It

¹ *Edinb. Med. Jour.*, 1901.

² *Archives of Pediatrics*, 1901, No. 10.

³ *Brit. Med. Jour.*, Nov. 23, 1901.

¹ *Post-Graduate*, XVI, No. 11.

is useless in cases of mixed injection. Creosote and its derivatives enjoy a wide reputation. They are only antiseptics and, temporarily, stimulants, but not specifics, as was once believed. Creosote should not be given in large doses. Fifteen drops in a bland vehicle, three times daily, ought to be the upper limit.

Ichthyol has been successfully employed both in Europe and America. Large doses, as 30 grn., thrice daily, are productive of the best results. The drug should be given so as to pass the stomach undissolved. The general nutrition improves, cough diminishes, fever and sweats are relieved. In cases with cavities and excessive expectoration the effect is often striking, and seems to depend on the influence of the remedy over secondary infection, since it converts the purulent secretions into mucus, and thus practically removes the source of intoxication from the system.

Recently a South American drug called kalagua appeared on the market. Small doses, 4 to 5 grn. daily, have given favorable results in a few incipient cases. However, its indiscriminate use is not recommended by the author.

TREATMENT OF VARIOUS GYNECOLOGIC AFFECTIONS

Dr. Leduc¹ says that in gynecological diseases the patient should always first be given the benefits of medical treatment. By doing so the necessity for surgical interference is frequently obviated. In order to avoid necessity of frequent visits, the patient is given a preparation which she can apply herself as frequently as necessary. The formula is as follows:

| | |
|----------------|--------|
| Ichthyol | 1½ dr. |
| Airol..... | 1½ dr. |
| Glycerin..... | 5 dr. |
| Vaselin..... | 3 oz. |

Occasionally, extract of belladonna or opium may be added when there is great pain. Twice daily a large warm douche is made, and then the medicament introduced by the patient. A layer of absorbent cotton about the size of the palm of the hand is taken, and in its center a portion of the above ointment is placed and secured by a string. Externally, some borated vaselin is rubbed on and the cotton is then introduced.

The author claims that under this treatment ulcerations of the cervix are rapidly cured. Also the majority of cases of metritis, perimetritis, and salpingitis. Fibromata grow smaller; hemorrhages and pains cease. In inoperable carcinoma it is the

best method of controlling hemorrhage and pain. It is a method of relief, and sometimes of cure in certain cases of prolapsus. It presents no dangers or inconveniences. It should always be employed before advising surgical treatment.

ANOTHER REPORT ON ATROPINE IN INTESTINAL OBSTRUCTION

Dr. A. A. Jukovsky¹ reports the following interesting case. The patient, a woman of forty, was taken with sudden violent pains in the abdomen, which became strongly distended. On the following morning there was nausea and hiccough, and later repeated fecal vomiting. There was, of course, absolute constipation. Cathartics and enemata had no effect. The doctor then injected 1/12 grn. of atropine sulphate. In half an hour after the hypodermic the patient experienced dryness of the throat and dizziness; the face was flushed, pupils dilated, the pulse was 100 per minute and very small; in two hours there were clonic convulsions, delirium, and hallucinations. In five hours all symptoms of poisoning disappeared. The pain and vomiting also ceased; in the night time there was an abundant passage of gas and feces, and the following day the patient felt quite well.

THYROID EXTRACT IN CANCER

It is unsafe to argue from the results in one case, no matter how brilliant these results may be. Still, the following case is so remarkable that it deserves to be recorded here. The patient was a woman of fifty-one, suffering with malignant disease of the uterus, with secondary growths in the neighboring viscera. Two months before coming to the author, Dr. H. A. Beaver,² she was examined in consultation by Sir John Williams and Sir Francis Laking, who decided that the case was one of malignant disease and that it was too late for an operation.

Upon examination the author found all the signs of uterine cancer to be present. There was a hard mass between the uterus and rectum, which bled easily; the uterus was fixed and enlarged. From the peritoneal surface on the right side there was a hard, irregular lump, measuring 5 by 4 inches, growing upwards. There was a nodular growth springing from the lower border of the right lobe of the liver, and an enlarged gland as big as a marble in the right groin. The patient was extremely emaciated, confined to bed, and suffering great pain. There were usual pressure

¹ *Post-Graduate*, 1901.

¹ *Boln. Gaz. Botkina*, 1901.

² *Brit. Med. Jour.*, No. 2144.

symptoms shown by the other pelvic organs, and occasionally a blood-stained discharge from the vagina.

The only indication was to allay pain and render life endurable. Later on the suffering became so intense that the author asked Sir Francis Laking to see her again. They agreed that treatment must be directed wholly for the relief of pain, and that the case was rapidly nearing its end. A month longer seemed more than could be expected.

The author then determined to try the effect of thyroid extract. Commencing with 5 grn. daily, the dose was quickly increased to 20 grn., with a result that was little short of marvelous. Convalescence began immediately, so that by the end of two months the patient was up and free from pain. At this time the various growths were much reduced in size, and weight was being rapidly regained. When last seen, several months later, she was quite well and was following an active life; nothing abnormal was to be felt in the pelvis.

In this instance the improvement followed so quickly upon the employment of the remedy and was so striking, that in his own mind the author has not the slightest doubt that it was entirely due to its use, and he is certain that thyroid extract should always be given a trial in this class of cases before more heroic measures are adopted.

IODINE A NORMAL CONSTITUENT OF THE CELLS

At a recent meeting of the Medical Society of Budapest, Dr. Jacob Justus¹ read an important paper on the presence of iodine, normally, in the cells and tissues. He succeeded by an original coloring method, using thallium chloride as the reagent, to prove that the nuclei of all cells contain iodine, while some organs, such as the thymus, hypophysis, and thyroid gland, contain iodine also in the cellular protoplasm. Young cells contain more iodine than old ones. [This discovery, if fully corroborated, would prove of great importance, as it would throw considerable light on the therapeutic action of iodine.—Ed.]

FURTHER EXPERIENCE WITH THIOCOL

Dr. J. W. Frieser,² of Vienna, who some time ago published a report³ on the use of thiocol in pulmonary tuberculosis, etc., has had further experience in the use of this drug, which he details in the second report. From the numerous cases which the author treated with thiocol in more recent times, he takes fifteen and gives their history in

brief, without, however, omitting any essential detail. The results were excellent in all of these cases. The author used thiocol successfully in cases of tuberculosis, bronchitis, broncho-pneumonia, pleurisy, etc. He summarized his experience as follows:

Thiocol is a remedy which deserves special consideration from physicians in the treatment of pulmonary tuberculosis, and of catarrhal and chronic affections of the pulmonary tract in general. It affects favorably the local process, not only in incipient phthisis, but even in the far-advanced stages; it increases the strength, decidedly improves the appetite, as well as the digestion and the general nutrition; an improvement in the general condition of the patient and a constant increase in weight is the result. The cough and the night-sweats are also influenced in a most favorable manner.

Some patients took the thiocol uninterruptedly for months without any unpleasant by-effects ever having manifested themselves. Most of the time it was administered in a 10-per-cent. aqueous solution with syrup of orange peel as the corrigent. Considering all these excellent properties, thiocol deserves to take a high place in the therapeutics of tuberculosis.

LEMON JUICE IN HOARSENESS

Dr. Th. Schroeder¹ reports a case of hoarseness, complicated with sensitiveness and nightly attacks of coughing, in which lemon juice produced a "magic" effect. The patient, a man of fifty-seven, who had suffered with hoarseness for a long time, drank the freshly expressed juice of a lemon. He claimed that the juice ran down into his larynx. From that moment the hoarseness and cough disappeared and did not return.

A SIMPLE AND SENSITIVE TEST FOR ALBUMIN

When we are unable to obtain more than a few drops of urine, the test for albumin by the ordinary methods is exceedingly difficult and unsatisfactory. Dr. Z. Bychowski² of Warsaw proposes a method by which it is easy to detect the presence of albumin even in one or two drops of urine. The procedure is so simple that it is somewhat surprising that nobody thought of it before. It merely consists in putting the drop or two of urine into a test-tube filled with hot water and shaking. If albumin be present, a whitish cloud is formed and is seen diffused through the liquid. The author says that this test is more distinctive than the ordinary heat method, because the contrast between the opalescent coagulum

¹ *Klin.-therap. Woch.*, VIII, No. 48.

² *Therap. Monatsh.*, XIV, No. 12.

³ *Therap. Monatsh.*, XIII, No. 12.

¹ *Monatsch. f. Ohrenh.*, XII.

² *Deut. med. Woch.*, 1902, No. 2.

and the colorless water is unmistakable. It becomes still more apparent when the test-tube is held against a black background. Of course, phosphates give the same reaction, but the cloud disappears on the addition of a drop of acetic acid.

This test can be performed at any bedside, because a small glass and some hot water are the only requisites.

DEATH FROM SPINAL COCAINIZATION

At a meeting of the Société de Chirurgie, Dr. Legeu¹ reported two cases of immediate death following subarachnoid cocaineization. In each case the dose injected was less than $\frac{1}{3}$ grm. One of the participants in the discussion that took place after the reading of the report said that this method, which has not even the merit of inducing anesthesia with absolute certainty, should be altogether discarded.

AMYL NITRITE IN SPINAL COCAINIZATION

The three principal disagreeable after-effects following the employment of cocaine intraspinally are: Headache, vomiting, and rise of temperature. According to Dr. Cordero², all these after-effects may be obviated by the administration of amyl nitrite. From three to seven drops on a handkerchief are to be inhaled, and repeated if necessary. He tried this means in twenty-seven operations in the surgical clinic at Parma and with uniform success.

NEW TEST-PAPER FOR IODINE

The paper usually employed for the detection of iodine in the saliva, urine, etc., has certain disadvantages. It is too easily affected by exposure and light, and must therefore not be too old to be reliable. Dr. G. Denigès and J. Sabrazès³ have used for some time a test-paper which they declare free from any drawbacks. It is prepared as follows: 1 Gm. of starch is mixed in a porcelain capsule with 10 Cc. of cold, distilled water; 40 Cc. of boiling water is then added under stirring, and this mixture is then brought to a boil; it is boiled for one or two minutes, then allowed to cool, and mixed with 0.5 Gm. of sodium nitrite. Strong writing paper is then covered with this reagent on one side, and when this side is dry—either spontaneously or by passing the paper in a current of hot air—the other side is similarly painted. The paper is then cut into strips and kept in boxes or glass vessels, without further precautions. When

wanted for use, this paper is wet with the desired liquid (saliva or urine) and by means of a glass rod a drop of a 10-per-cent. (by volume) sulphuric is added. The paper, of course, assumes a blue color. The test-paper, the authors say, is so sensitive, that it can detect the presence of $\frac{1}{1000}$ of a milligram ($\frac{1}{60000}$ of a grain) of potassium iodide in a drop of solution. The authors have used it to demonstrate the presence of iodine after ten administrations of iodipin, etc., with excellent results.

TREATMENT OF ULCERATIVE TRACHOMA WITH ICHTHARGAN

Dr. B. F. Gortloff,¹ oculist in the Russian army, speaks very favorably of the use of ichthargan in severe trachoma with consequent ulceration and pannus. He applied the ichthargan in 1-per-cent. solution on a cotton swab. Prior to the ichthargan, hot applications and nitrate of silver were tried, but without noticeable effect. The ichthargan produced a complete cure in each case. The author ascribes the good effect to the combined action of the ichthyol and of the silver which are contained in the ichthargan.

THE PROPER METHOD OF GIVING QUININE BY INJECTION

Dr. J. P. Maxwell² thinks that abscesses and cellulitis resulting from the hypodermic injection of quinine are due principally to the use of too concentrated solutions. His large experience in tropical countries has led him to emphasize the following points:

(1) The injection should be intra-muscular, not subcutaneous. (2) The gluteal, scapular, and deltoid muscles are the ones best suited for this method, especially the first named. (3) The salt of quinine to be used is the hydrochlorate, and of this 6 grm. are to be dissolved in 40 minims of boiled water; solution is brought to the boiling point and allowed to cool. (4) After injection, which is always painful, the surrounding area and the point of injection should be painted with iodine liniment [a preparation similar to our Lugol's solution]. Following this method, the author has never seen any untoward occurrences. None of the injections gave rise to any trouble. The author thinks, however, that injections are not absolutely safe in patients suffering from any form of acute septic ulceration, as in these cases there is a possibility of the area of injection being infected from within.

¹ *Rev. de Thérap.*, LXIX, No. 1.

² *Gazz. d. Ospedali*, 1901, No. 72.

³ *Münch. med. Woch.*, 1901, No. 51.

¹ *Vratch*, 1901, No. 49.

² *Jour. Tropical Med.*, Feb. 1, 1902.

ACTIVE PRINCIPLES OF VEGETABLE DRUGS

Dr. G. E. Blackham¹ pleads for the abandonment of the galenical preparations of vegetable drugs as being of indefinite and variable strength, and urges the use of the active principles instead. After presenting the well-known arguments as to the variable percentage of active principles in crude drugs, the author summarizes as follows: Active principles are preferable to crude drugs or galenical preparations, on account of—(1) Precision. Being definite chemical compounds, their composition is always the same and their action is uniform. (2) Portability. Being active principles deprived of all extraneous matter, the dose is necessarily small and a large number of doses can be carried in a small space. (3) Safety. This results from their definite composition and uniform strength. (4) Palatability. The dose being so small, it can be effectually concealed in a small granule, which is readily swallowed by the most fastidious.

FORMULA FOR PHLEBITIS

Dr. E. Herz² recommends the application of the following ointment:

| | |
|-----------------|--------|
| Ichthyol..... | 2½ dr. |
| Wool-fat..... | 1½ oz. |
| Petrolatum..... | 1½ oz. |

If the phlebitis is of gouty origin, the following pills are at the same time used internally:

| | |
|---------------------|---------|
| Colchicum Seed..... | 15 grn. |
| Ext. Digitalis..... | 6 grn. |

Make into 20 pills. One pill a day.

DIONIN IN OPHTHALMOLOGY

Dr. Schmitz³ has had occasion to use dionin in five cases of ophthalmic disease and expresses his great satisfaction with the results, especially in a case of parenchymatous keratitis. The patient, who was on the verge of total blindness, owes his recovery to a course of treatment with dionin. Other similar cases were recorded by the author. The application of the drug produces only transient burning and swelling of the lids. The rapidly increasing favorable literature on dionin justifies the hope that the drug will prove to be a permanent acquisition in ophthalmic therapeutics.

Dr. Albert Terson⁴ draws our attention to the local analgesic value of dionin in hemorrhagic glaucoma. Glaucoma is a well-known complication of the classical retinitis

albuminurica, and treatment by iridectomy is in such cases contra-indicated.

The author's patient, a woman of sixty, was suffering from pains due to glaucoma complicating the retinitis of Bright's disease. The pains were so intense and resisted all measures so obstinately that enucleation of the eye-ball was considered. As a final resource, dionin was tried, a solution of 1:40 being dropped into the eye thrice daily. The effect was most striking and prompt, and the patient thus narrowly escaped the operation. This analgesic action of dionin was also observed in other affections of the eye, and is confirmed by various authorities.

EFFECT OF ALCOHOL ON DIGESTION

In a paper on the effect of alcohol on digestion, Dr. J. A. Storck¹ reaches the following conclusions:

(1) Small quantities of alcohol favor salivary and gastric digestion; large quantities inhibit salivary, gastric and pancreatic digestion. (2) Alcohol, whisky, gin, and brandy are less harmful to the digestive processes than are malt liquors and wines. (3) The continuous use of alcohol, even in small amounts, is liable to prove detrimental to the digestive process. (4) In persons of weak digestion, alcohol as a rule is harmful, unless given well diluted. (5) Strong alcoholics should never be given when the stomach is free of food. (6) Alcohol is a valuable food in disease; requiring no primary assimilation, it yields force rapidly to an exhausted system and in small quantities it promotes appetite. (7) It is well to bear in mind that the purer the whisky or the brandy, the less liable it is to produce digestive disturbances. (8) Finally, it is true, as Wood says, that "Science in no way contradicts the experience of every *bon vivant* that the small doses of alcohol increase, and larger amounts interfere with, the activity of digestion."

ETHYL BROMIDE IN ADENOID OPERATIONS

Dr. J. W. Gleitsmann² has for several years been using ethyl bromide as the anesthetic in operations for adenoid vegetations. Formerly he was in the habit of employing the A. C. E. mixture for the same purpose, but now prefers ethyl bromide. The narcosis does not require so much time with the bromide as with other agents, the children waking up promptly—a fact which results in much saving of time. Of course, the drug is not suited for prolonged operations,

¹ *Amer. Med.*, III, No. 2.

² *Jour. des Praticiens.*

³ *Woch. f. Therap. u. Hyg. des Auges*, IV, No. 38.

⁴ *Ophthalmol. Klinik*, 1901, No. 17.

¹ *New Orleans Med. Surg. Jour.*, LIV, No. 6.

² *Med. Record*, LX, No. 18.

and must be absolutely pure in order to prove a success.

From 1 to 2½ dr. is sufficient for children of eight to fifteen years. It is advisable to pour 2 dr. into the impermeable mass in order to obtain complete narcosis. If the bromide is gradually added, narcosis takes place within two minutes, but more of the drug is required; occasionally even as much as 10 dr. The author never had any serious accidents with the anesthetic, although he can record about 500 operations. The author uses a mass which is intended to exclude the air completely. He recommends Merck's 1-oz. tubes of the ethyl bromide as admirably adapted to the purpose, giving very little waste. The administration is continued under control of the pulse until the muscular tonus is abolished. The narcosis is now usually deep and lasting enough to permit the removal of both tonsils and, if necessary, the adenoids.

HEMORRHAGIC TYPHOID FEVER

The variety of typhoid fever known as hemorrhagic—characterized by epistaxis, hemorrhages from the conjunctivæ, mouth, tongue, kidneys, etc.—is rare and its prognosis is very bad. The mortality is between 60 and 70 per cent. Drs. C. B. Longenecker and Joseph Ackerman¹ report a case with a successful issue. The treatment consisted in the administration of calcium chloride, 20 grn. four times daily; oil of turpentine, 10 min. every four hours; adrenalin chloride locally, and gelatin. The latter substance was used to its fullest limit: as a mouth-wash, in the form of orange gelatin *ad libitum*, and per rectum, with salt and whiskey to the point of tolerance.

ICHTHYOL IN LEPROSY

Dr. de Brun² read a paper before the Paris Academy of Medicine on the favorable results obtained by him in the treatment of leprosy with ichthyol administered internally. He started with 30 to 45 grn. a day, reaching 2½ dr. a day in a short time. He has never noticed any unpleasant by-effects. The ichthyol proved effective in the tubercular form of leprosy only; in the neurotic form it was inefficacious. The author says that the tubercles and nodes become softened and absorbed very rapidly under the influence of ichthyol, in one to two months, and the ulcerations cicatrize very rapidly. There were no relapses and no new formation of tubercles. The fact is emphasized that ichthyol must be admin-

istered internally; applied externally, it proved of no avail—probably on account of the failure of the leprosy skin to absorb any of the medicament.

QUININE AS A DRESSING

Dr. J. Reid¹ has used a mixture of 1 dr. of quinine and 8 oz. of emulsion of codliver oil as an application to ordinary ulcers, and to those of rheumatic and syphilitic origin; also in a case of gangrene of the skin, and after a burn, where a large surface, about a foot square, formed a slough which had to be removed on account of ulceration. All wounds took on a healthy appearance after the application. The mixture also acted well in intertrigo and eczema.

FORMULA IN TREATING SYPHILIS HYPODERMICALLY

Dr. Dubois² recommends the following formula for the hypodermic treatment of syphilis:

| | |
|------------------------|--------------|
| Mercury Benzoate | 0.3 (5 grn.) |
| Sodium Chloride | 0.3 (5 grn.) |
| Distilled Water | 30. (1 oz.) |

Dissolve with the aid of heat and filter. The solution may be heated to boiling without fear of decomposition. No precipitate has formed in solutions that have been kept for several months, states the author.

DORMIOL AS A HYPNOTIC

Dr. Romme³ states that his reason for taking up the discussion of dormiol, in spite of the long list of hypnotics already in our possession, is because dormiol seems to be a remedy of real benefit, possessing, as it does, the properties of an ideal hypnotic—namely, the prompt and certain production of a sleep which is almost exactly similar to natural sleep, very slight toxicity, or none at all in the doses usually employed, and the absence of cumulative effects.

Dormiol is produced by the action of chloral on amylene hydrate. The combination of these two substances in molecular proportions produces a liquid which is known chemically as dimethyl-ethyl-carbinol-chloral. This liquid is clear and transparent, with an odor suggestive of camphor or menthol, and with a slight burning taste; its specific gravity is 1.24. It is miscible in all proportions with alcohol, ether, chloroform, and oils. In water it is but slowly soluble; it is therefore marketed in the form of 50-per-cent. aqueous solution, from which the 10-per-cent. solution—the form in which it is usually administered

¹ *Amer. Med.*, III, No. 4.

² *Bull. de l'Académie de Méd.*, 1901.

³ *London Lancet*, No. 4094.

² *Bull. gén. de Thérap.*

³ *La Presse méd.*, IX, No. 76, p. 182.

—is easily prepared by shaking with 4 parts of water. From $\frac{1}{2}$ to 1 teaspoonful of the 50-per-cent. preparation, or $\frac{1}{2}$ to 1 tablespoonful of the 10-per-cent. solution, generally suffices to induce sleep; the dose may be repeated in an hour if necessary.

In spite of its rather disagreeable taste, patients take dormiol without objection, and it is well borne. Its effect is generally manifested in from half an hour to an hour, the patient sinking gradually into a sound sleep, uninterrupted by dreams. The sleep lasts from five to eight hours, according to the condition of the patient and the cause of the insomnia. With the doses above mentioned, no change takes place in the respiration, circulation or temperature. On awaking, the patients experience no depression, no somnolence, and no headache. On the contrary, they feel refreshed, as after a sound natural sleep. In this respect dormiol is certainly superior to all other hypnotics except trional, which has a similar effect. Some patients even state that they have a better appetite after having slept under the influence of dormiol, which goes to show that the remedy at least has no injurious effect on the digestion.

THE TREATMENT OF SYPHILIS WITH INJECTIONS OF MERCURY SUCCINIMIDE

Dr. M. Horovitz¹ first reviews the various methods of treatment of syphilis. The internal treatment is, of course, the simplest, both for patient and physician, but its disadvantages far outweigh its advantages. The digestive organs become disordered and weakened, and when this happens it is useless to administer mercurials any further, because they pass through the bowels unabsorbed. It is only in mild cases where small doses suffice that the method is available. The fumigation method—allowing the vapor of calomel and cinnabar to act on the skin and lungs—is altogether uncertain. The inunction method gives very good results, but the dosage is uncertain; its action is at time too slow. It occasionally causes eczema and folliculitis, while pytalism and stomatitis are sometimes very severe. It is also an uncleanly method.

The injection method is rapid, cleanly; we know and we can regulate the exact amount injected; there is no gastro-intestinal disturbance, while the effects are more rapid than with any other method. The mercurial compounds used for injections are either soluble or insoluble. To the soluble belong the corrosive chloride, formamide, cyanide, peptonate, and succinimide.

To the insoluble compounds belong the mercurous chloride, oxide, salicylate, and thymolate. The insoluble compounds are employed in the form of thick emulsions or liquids of almost ointment-like consistence, and generally have to be warmed before being used. The insoluble compounds have the following advantages: the amount to be injected is very small and the effect is lasting, so that the injections need not be repeated often. The disadvantages are: the injections are very painful and are followed by red and hard infiltrations.

The author, therefore, prefers the soluble compounds, and of these his choice is mercury succinimide; he had been using corrosive sublimate for many years, but for the past three years he has replaced it with the succinimide. His formula is as follows:

| | |
|-----------------------------|----------|
| Mercury Succinimide | 2.5 Gm. |
| Cocaine Hydrochlorate | 1.0 Gm. |
| Distilled Water | 50.0 Gm. |

Of this, a cubic centimeter (16 min., containing $\frac{5}{8}$ grn. of succinimide and $\frac{1}{3}$ grn. of cocaine) is injected directly into the muscular tissue of the buttocks. One injection is made daily for two days in succession, and then one day is skipped, after which the injections are resumed. Twenty-four to thirty such injections are sufficient for a basic treatment of syphilis. Should pytalism or stomatitis make its appearance, the treatment is interrupted for several days. The needle should be sharp and well polished; held perpendicularly, it is to be thrust rapidly into the muscular tissue and the liquid is also to be ejected at once, and not gradually. For the first hour or two after the injection the patient experiences no pain; after that the e is some pain, but it is slight and is easily borne.

TREATMENT OF RINGWORM

For ringworm of the scalp, Dr. Lusk¹ recommends the epilation or shaving of the affected patches, and the use of antiseptic washes to prevent further spreading. Night and morning the following ointment may be applied:

| | |
|----------------------|---------|
| Chrysarobin | 25 grn. |
| Ichthyol | 15 min. |
| Salicylic Acid | 10 grn. |
| Petrolatum | 1 oz. |

An oil-silk cap must be worn, so that the chrysarobin will not be carried to the face and cause dermatitis or conjunctivitis. In a few days a violent reaction sets in, and this is treated with soothing salves, such as boric acid ointment.

¹ *Centralbl. f. d. ges. Therap.*, XIX, No. 11.

¹ *Post-Graduate*, XVI, No. 11.

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MARCH, 1902

EDITOR'S NOTES

The Physician's Prayer, Composed by Maimonides

ACCORDING to Montgomery, a prayer is a sincere wish, uttered or unexpressed. In this domain of sincere wishes we know of nothing more beautiful, more noble, more lofty, more inspiring, and, at the same time, rational, than the prayer for physicians composed by the greatest physician and rabbi of the Middle Ages, Dr. Moses ben Maiman, generally referred to as Maimonides. Though written more than seven centuries ago (Maimonides was born about 1135 and died in 1204), we believe that its frequent perusal and contemplation would do a great deal of good to the physicians of our time—believers, agnostics, and atheists alike. The prayer follows:

"O God, Thou hast formed the body of man with infinite goodness; Thou hast united in him innumerable forces incessantly at work like so many instruments, so as to preserve in its entirety this beautiful house containing his immortal soul, and these forces act with all the order, concord, and harmony imaginable. But if weakness or violent passion disturb this harmony, these forces act against one another and the body returns to the dust whence it came. Thou sendest then to man Thy messengers, the diseases which announce the approach of danger, and bid him prepare to overcome them. The Eternal Providence has appointed me to watch o'er the life and health of Thy creatures. May the love of my art actuate me at all times, may neither avarice,

nor miserliness, nor the thirst for glory or a great reputation engage my mind; for, enemies of truth and philanthropy, they could easily deceive me and make me forgetful of my lofty aim of doing good to Thy children. Endow me with strength of heart and mind, so that both may be always ready to serve the rich and the poor, the good and the wicked, friend and enemy, and that I may never see in the patient anything else but a fellow creature in pain.

"If physicians more learned than I wish to counsel me, inspire me with confidence in and obedience toward the recognition of them, for the study of the science is great. It is not given to one alone to see all that others see. May I be moderate in everything except in the knowledge of this science; so far as it is concerned, may I be insatiable; grant me strength and opportunity always to correct what I have acquired, always to extend its domain; for knowledge is boundless and the spirit of man can also extend infinitely, daily to enrich itself with new acquirements. To-day he can discover his errors of yesterday, and to-morrow he may obtain new light on what he thinks himself sure of to-day.

"O, God, Thou hast appointed me to watch o'er the life and death of Thy creatures; here am I ready for my vocation."

* *

Enormous Cyst

IN the *Gazzetta degli Ospedali* (Dec. 1, 1901) there is reported an interesting case, with photographs, of a woman with an immense ovarian cyst. The woman plus cyst weighed 205 pounds. She was helpless. She was operated upon and the cyst upon removal was found to weigh more than the woman did—namely, the cyst weighed 113 pounds and the woman (minus her cyst) 92 pounds. She made a complete recovery. We wonder what effect Christian science, mental science, weltmerism, willmansism, *et id omne genus*, would have had on this case.

* *

Tolerance in Therapeutics

TOLERATION is very, very necessary in therapeutics. Do not be too quick to pronounce a drug worthless or a treatment absurd without a thorough examination. The truth of this contention becomes more and more evident as we note the number of drugs which were recommended in the dim past, pronounced absurd, only to be taken up anew at the present time as remedies of high value.

Some thirty years ago a physician's name was struck off the roll of the College of Physicians of England for recommend-

ing boa-constrictor urine (which, as is known, is especially rich in urea) in pulmonary affections. Just now, urea is on the point of becoming a fad in the treatment of pulmonary tuberculosis. The incident, also, once more emphasizes the adage that there is nothing new under the sun.

* *

Hahnemann on Sectarianism

WE have all heard and read of people who are more royalistic than the king himself: and so sectarians of all descriptions frequently become more zealous than the founders themselves. Some of the narrow-minded homeopaths object to the liberalizing movement which has been making itself felt of late and which induces many Hahnemannians to drop their sectarian names. Such ones will do well to read and ponder over the words of Hahnemann, which will be found in his "Lesser Writings." They are in substance as follows: "The motto of a sectarian name is a bar to sober, calm, scientific investigation; it only rouses the antagonistic spirit to a fierce, volcanic flame. Truth and welfare of humanity should be the only motto of the true followers of the art, and a brotherly, peaceful reunion, without slavish adherence to any sectarian leader, should be our only watchword, if we do not wish to see that little good that we have accomplished completely sacrificed to party spirit and discord."

* *

Four Cæsarean Sections on One Woman

DR. N. CHARLES, a physician of Liège, recently performed Cæsarean section for the fourth time on a small, rachitic patient. Her sacro-pubic diameter measures only $2\frac{3}{5}$ inches. The mother and the child are doing well. Of the three children previously brought into the world in the same fashion, two are in good health; one died of bronchitis.

* *

Elementary Phosphorus

DR. H. LEO, of the University Polyclinic at Bonn, reports in the *Therapie der Gegenwart* two cases of chronic and fatal phosphorus poisoning in young children. The children were treated for rickets, with a solution of phosphorus in olive oil, so highly recommended by Kassowitz. The dose of phosphorus amounted to about $\frac{1}{100}$ grn. twice a day. The children developed icterus, enlargement of the liver, etc., and died. The author says that if we do use a remedy the medicinal virtues of which are questionable, we should at least be sure that it is harmless. This is not the case with phosphorus. We have always been of the opin-

ion that phosphorus in the elementary state is a barbarous remedy and should be discarded from our *materia medica*. It is worthy of note how the doses in which phosphorus is administered have been gradually getting smaller. In 1872 the German Pharmacopœia gave the maximum dose of phosphorus as 15 milligrams or $\frac{1}{4}$ grn.; in 1882 the same authority gave the maximum dose as 1 milligram or $\frac{1}{60}$ grn.! Let us hope that soon its dose will be given as 0.

* *

Laureat de l'Académie de Médecine

THE prize of 1,000 francs for the best work on a subject connected with the history of medicine, published in the French language within the last five years, has been awarded by the Paris Academy of Medicine to Mademoiselle Melanie Lipinska, M.D., of Warsaw, for her work entitled "History of Female Physicians from Antiquity to the Present Day." The honor of the prize is quite a high one, because it carries with it the title of Laureat de l'Académie de Médecine.

* *

Grains of Wisdom and Bits of Information

THE theoretical demand of only one remedy in a prescription looks well on a platform, as the ornamental trimming of an impressive address to the young, but gives one but a poor show at the bedside.

—A. Jacobi.

JULIUS CÆSAR and Napoleon are said to have been epileptics: I am quite certain they would not have won their battles or left such a mark in the world's history if they had been energetically treated by bromides.—W. U. Broadbent.

THE old lady, Medicine, can hardly be recognized any more, so young and healthy has she become under the influence of the youthful spring of the natural sciences.

—Helmholtz.

THE fact that we possess no specific remedy for phthisis is far from the same thing as not possessing any useful drug. We possess no specific climate for phthisis, but many useful ones.—Kobert.

Veritas praevalcbit (the Truth will prevail) some day, and if she does not prevail in your day, you will be all the better and wiser for having tried to help her, and remember that such great reward is full payment for all your labor and your pains.

—Hurley.

IT is not necessary for us always to wait in medicine for scientific facts before attempting treatment. Some of the most valuable remedies that we have at our disposal are purely empirical in their origin.

—M. Allen Starr.

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

To Overcome the Mydriasis Caused by Atropine

Dr. H. C. B. writes: Do you know of any substance that will dry up a bronchial mucous membrane as well as atropine without paralyzing accommodation? I often have a case where I would like to give atropine for a cold, but cannot do so because the patient must use his eyes.

There is nothing that can fully replace atropine as a "drier up" of secretions, but the undesirable mydriasis may be obviated by giving the atropine in small doses at rather frequent intervals. Combining it with opium or one of its derivatives serves a double purpose; a synergistic effect is obtained as far as "drying up" the secretion is concerned, which permits us to give the atropine in much smaller doses, while at the same time the opium has an antagonistic effect on the pupil of the eye. Potassium chlorate is also to a certain degree effective in drying up buccal and bronchial secretions. Very recently, cinchonine sulphate has been recommended for the purpose, in doses of 4 to 6 grn., three to four times a day. It is claimed to possess a distinct "drying-up" effect on the nasal and tracheo-pharyngeal mucous membrane.

Liquor Carbonis Detergens

Dr. J. B. Q. asks for a reliable formula of the preparation mentioned in the title.

Liquor carbonis detergens, also known as coal-tar saponin, is made by mixing 4 oz. of coal-tar with 8 or 9 oz. of tincture of soap bark, allowing to stand for a few days in a warm place, shaking occasionally and filtering. It is but seldom applied pure, but is generally mixed with 15 to 50 parts of water (1 dr. in 2 oz. to 1 dr. in 6 oz. of water). In the last edition of the British Pharmacopœia there is official a preparation under the name of liquor picis carbonis—solution of coal-tar—which is practically identical with liquor carbonis detergens.

Carbolic Acid in the Treatment of Piles

Dr. A. N. writes: In the ARCHIVES for February (page 64) there is an abstract on carbolic acid in the treatment of piles. The author of the article or the printer made a mistake in the proportions of the carbolic acid, glycerin, and water, which the Editor of the ARCHIVES corrected. Before using it in my practice, I would like to make

perfectly sure, as I would not want to use the preparation either too strong or too weak.

Our surmise of there having been a typographical error in the original article was correct. In a later issue of the *Boston Medical and Surgical Journal* the following "correction" appeared: "Will you allow me to correct a mistake in my article on the 'Treatment of Piles by the Injection of Carbolic Acid'? The formula should read as follows: Carbolic acid (95 per cent.) 1 part, glycerin and water each 5 parts; this makes a solution of about 10 per cent. of the acid, which in my experience is strong enough." The actual strength of this solution is $8\frac{7}{11}$ per cent. As the author says, this strength is about right.

Formula for a Good Cough Mixture

Dr. J. S. T. writes: Will you please publish the formula of Prof. Thompson for a cough mixture? It was published in the November number of the ARCHIVES for 1900. This was before I became a subscriber. The prescription was composed of some oleaginous mixture.

The formula is as follows:

| | | |
|----------------------------|----------------|-----|
| Linseed Oil..... | 15 | oz. |
| Oil Wintergreen | 2 | dr. |
| Oil Cinnamon | 2 | dr. |
| Dil. Hydrocyanic Acid..... | $2\frac{1}{2}$ | dr. |
| Glycerin | 5 | dr. |
| Simple Syrup | 10 | oz. |
| Water | 24 | oz. |
| Irish Moss | $\frac{1}{2}$ | oz. |

Make an emulsion; 2 to 4 teaspoonfuls three times a day.

At the time of printing the formula we made the following editorial comment: "We have tried the above in a great number of instances, and found it a most excellent combination. When the cough is very irritating and painful, $\frac{1}{8}$ grn. codeine or $\frac{1}{8}$ grn. dionin may be added to each dose with great advantage."

With this modification the formula has been used by very many physicians with most excellent results. The combination is much superior to the ordinary nauseating cough mixtures, consisting of ipecac, senega, squills, etc. The linseed oil, which must be of a very good quality, seems to exert a truly curative influence on the bronchial mucous membrane. The dose of codeine or dionin may, of course, be increased if considered necessary.

Ichthargan Ointment—New Uses of Ichthargan

N. B. A. writes: I have had such good success with ichthylol-silver or ichthargan in gonorrhea that I decided to try it in different affections, where an astringent, antiseptic, and antiphlogistic effect was desired. I have used it in ulcers of the leg in 1-per-cent. solution, also in chancroids, in carbuncles, etc. If you can give me the formula for a good salve, which would keep well, I would feel obliged. Also any other information. I have

been a subscriber to MERCK'S ARCHIVES since its inception, and have never annoyed you with queries, so I hope you will not consider me too obtrusive.

To commence with the last sentence. Many subscribers, when asking for some information, consider it necessary to start or end with an apology for "troubling" us. Now, this is entirely superfluous. While some of the queries demand a good deal of research, still we do not consider the work a "bother" or trouble, but a real pleasure. The department of Queries and Answers is read eagerly by the subscribers, and the more queries are answered in the department, the more interest it will possess. We therefore ask our readers not to be backward in asking any question within the province of the ARCHIVES, assuring them that the obligation is a mutual one.

Regarding ichthargan, we would say that from recent reports it appears that the field of application of this chemical is constantly widening. We recently came across a report of its successful use in gastric catarrh, in dilatation, and in ulcer of the stomach. It was given as follows:

Ichthargan ½ grn.
Distilled Water 7 oz.
Tablespoonful three times a day.

In chancroids it is best applied in substance or in ointment form. A good formula for an ointment is the following:

Ichthargan..... 15 grn.
Distilled Water..... 8 drops.
Glycerin 15 drops
Petrolatumto make 2 dr.

Rub well the ichthargan with the water and glycerin, and then incorporate with the petrolatum.

It has also been used, with alleged success, internally in acute gonorrhea, in the same doses as above. The ointment has also proved useful in phlegmons, furuncles, anthrax, etc. In syphilitic ulceration of the throat, in trachoma, and in conjunctivitis it may be applied in 1 or 2 per cent. solution, by means of a camel's hair brush.

Collinsonia

Dr. W. P. B. asks for information regarding Collinsonia.

Collinsonia Canadensis is a perennial herb of the natural order *Labiata*. It is known under the common names of stone-root, rich-weed, rich-leaf, horse-weed, etc. The root is the part principally used, but the whole plant is occasionally employed. The leaves contain some volatile oil, while a resin and tannic acid are found in all parts of the plant. Therapeutically, the drug is considered stimulant and diuretic; also al-

terative (?). It has been used in dysmenorrhea, amenorrhea, menorrhagia, leucorrhea, cystitis, catarrh of the genito-urinary system in general, minister's sore-throat (highly recommended by eclectics in the latter affection), dysentery, colic, constipation, hemorrhoids, etc. It is given either as infusion in doses of ½ to 2 oz., or in the form of a concentrated tincture in doses of 1 to 30 drops.

Comparative Effects of Iodipin and Hydriodic Acid

J. N. M.—We know of no comparative tests which have been instituted to demonstrate the comparative value of iodipin and syrup of hydriodic acid; but all the reports published so far agree unanimously that iodipin exerts a very marked action in reducing glandular swellings. Its action is much more permanent than that of the alkaline iodides or of hydriodic acid. You can mix it with any essential oil without in the least injuring its properties, in any way. You can also administer iodipin in emulsion form, according to the following formula:

Iodipin 3 oz.
Brandy (Best) 2 dr.
Yolk Egg 1
Oil Peppermint 3 to 5 drops

This makes a very acceptable preparation, and can be given to children for a long time without producing any gastric disturbance or intolerance.

Peroxide of Hydrogen with Lime Water

N. L. K. writes: I have seen it advised to prescribe peroxide of hydrogen with lime water in spraying the throat. On mixing the two solutions I noticed a white cloudiness, and afterwards a sediment settled. What does the sediment consist of: does it spoil the peroxide, and what is the lime water used for, anyway?

The sediment you noticed consists of calcium sulphate. Peroxide of hydrogen usually contains a little sulphuric acid, which is used at one stage during the manufacture of peroxide; this combines with the calcium of the lime water and forms calcium sulphate. The lime water is added to neutralize the acidity of the commercial peroxide, and this it does effectively; but at the same time the peroxide decomposes and loses its oxygen much more rapidly in an alkaline medium than it does when of an acid reaction. Therefore, if the addition of lime water is thought desirable, it should be added each time before spraying. We consider it preferable to add a little sodium bicarbonate instead of lime water, as the formation of the insoluble calcium sulphate, which is apt to clog up the tubes of the atomizer, is thus obviated.

Prescriptions

A collection of approved and reliable formulæ for the treatment of various diseases, usually those prevalent at the given season of the year. They are gleaned from the best periodical literature of the entire world, from the latest standard text-books on *Materia Medica* and *Therapeutics*, while some are contributed by our readers, who have tried them and found them effective in their daily practice. They are all carefully analyzed before being submitted to our readers.

Gastric Ulcer

Gastric ulcer is a frequent affection and requires care and discrimination in handling, but it yields in the greatest majority of cases to medicinal treatment. The principal symptoms which we have to fight in this affection are: Pain, hemorrhage, vomiting, and constipation.

The *pain* is either of a continuous kind or more frequently it makes its appearance after meals, on account of the action of the hydrochloric acid on the raw surface. That the food must be mild, or of a demulcent character, and easily digestible goes without saying, but diet alone will not stop the pain. Some medicinal measures are necessary. Prof. Robin recommends one of the following:

| | |
|--------------------------|--------------------|
| Picrotoxin | 1 grn. |
| Morphine Hydrochlor..... | 1 grn. |
| Atropine Sulphate..... | $\frac{1}{2}$ grn. |
| Ergotin | .20 grn. |
| Cherry-Laurel Water..... | 3 drams |

Four drops five minutes before each meal; dose may be increased to 7 drops, but not higher.

The morphine may, in our opinion, be left out, Riegel's experiments having shown that morphine *increases* the secretion of hydrochloric acid; atropine, however, has a distinct influence in checking the secretion.

If the above mixture is inefficient, the following powder may be used, which neutralizes the acid—the cause of pain:

| | |
|------------------------------|---------------------|
| Codeine | $\frac{1}{10}$ grn. |
| Calcined Magnesia | 30 grn. |
| Bismuth Subnitrate, | |
| Prepared Chalk, of each..... | 10 grn. |
| Sodium Bicarbonate, | |
| Sugar Milk, of each..... | 20 grn. |

For one powder. To be taken in a little water, during paroxysm of pain.

Bismuth subnitrate is, after all, one of the best drugs we possess in gastric ulcer, but to do good it must be given in much larger doses than those usually given by physicians or recommended by our text-books. We do not hesitate to give 2 drams three times a day, or even as much as $\frac{1}{2}$ oz. per dose. It is best administered as follows:

| | |
|---------------------------|--------------------|
| Bismuth Subnitrate..... | 1 oz. |
| Mucilage Acacia..... | $1\frac{1}{2}$ oz. |
| Syrup Raspberry...to make | 4 oz. |

One or two tablespoonfuls half an hour before meals.

The patient should be instructed to assume such a position as would favor the deposition of the bismuth on the ulcer. The ulcer being in the majority of cases near the pyloric orifice, the patient should incline towards, or lie down on, his left side. Cocaine is sometimes useful in stopping the pain and may be given in $\frac{1}{4}$ -grain doses, frequently repeated. External applications to the pit of the stomach are occasionally—in fact, frequently—quite efficient, and the following are good formulas:

| | |
|---|--------------------|
| Camphor | 1 dr. |
| Chloroform | 2 dr. |
| Extract Opium..... | $\frac{1}{2}$ dr. |
| Ext. Hyoscyamus..... | 1 dram |
| Fl. Ext. Belladonna..... | $1\frac{1}{2}$ oz. |
| Shake well. Rub in thoroughly but gently. | |
| Camphor | 30 grn. |
| Chloral | 30 grn. |
| Extract Belladonna | 1 dr. |
| Menthol | 20 grn. |
| Guaiacol | 20 min. |
| Woolfat | to make 1 oz. |

Hemorrhage.—This serious symptom requires careful treatment. Absolute rest in a horizontal position is, of course, the first thing to do. Next put an ice-bag over the stomach, give small piece of cracked ice, and the following mixture:

| | |
|-------------------------|----------|
| Tannic Acid..... | 40 grn. |
| Gallic Acid..... | 12 grn. |
| Oil Turpentine..... | 40 min. |
| Oil Anise..... | 5 drops. |
| Syrup Orange-Water..... | 1 oz. |

Teaspoonful every half-hour or hour.

This generally brings about a cessation of the hemorrhage, but in cases which are severe and obstinate, subcutaneous and vital injections of gelatin may become necessary. The following formula is a good one:

| | |
|--------------------------------|---------|
| Gelatin (purest quality)..... | 2 drams |
| Sodium Chloride..... | 40 grn. |
| Sterilized Distilled Water.... | 12 oz. |

Dissolve by means of a gentle heat. Inject $\frac{1}{2}$ to 1 oz. of this solution subcutaneously; the balance may be divided into two equal portions and injected into the rectum, at an interval of half an hour or an hour. Stypticin per os in 1 grn. or 2 grn. doses may also be given. A hypodermic of morphine is also indicated, and calcium chloride has acquired a reputation as a hemostatic on account of the property of aiding the coagulation of the blood. It may be given in the following combination:

| | |
|-----------------------|---------|
| Calcium Chloride..... | 80 grn. |
| Syrup Acacia..... | 4 oz. |
| Peppermint Water..... | 4 oz. |

Tablespoonful every hour. This mixture may also be given as a prophylactic.

Of course no food must be taken for several hours after the cessation of a hemorrhage, and even then the diet must be very restricted and of the blandest character possible.

Another mixture which has proved a useful adjuvant is the following:

Tinct. Ferric Chloride..... $\frac{1}{2}$ oz.
 Alum 1 dram
 Glycerin 1 oz.
 Infusion Flaxseed... to make 3 oz.
 Teaspoonful at half hourly intervals until hemorrhage has stopped.

The vomiting, as a rule, does not require any special treatment. The remedies which we have recommended above for the relief of the pain will usually, at the same time, stop the vomiting. Should this not be the case, then a mustard poultice—1 part of mustard to 2 parts of flour—may be applied: or spraying the gastric region with ether or ethyl chloride may be tried. Inhalations of oxygen have been recommended, but we have seen no benefit from this measure. Should the vomiting be so obstinate as to resist all measures, then the only thing to do is to cut off all food and drink by mouth and to resort to rectal alimentation. An eligible combination for the latter purpose is the following:

Eggs 2
 Milk 8 oz.
 Brandy $\frac{1}{2}$ oz.
 Chloral 5 grn.

or:

Tinct. Opium..... 5 min.
 Beat up well and inject at once, or in two divided portions.

Constipation is occasionally a very disagreeable symptom, especially in view of the fact that we cannot safely use heroic drugs or measures. Still, the constipation must be relieved, and this is best done by fractional doses of calomel, $\frac{1}{10}$ to $\frac{1}{4}$ grn. every half hour for six or eight doses; or by sodium phosphate, or by enemas of soap and water or oil and water.

Some overzealous surgeons advocate a surgical operation in gastric ulcer. This seems to us unjustifiable, except perhaps in very exceptional cases or where perforation has taken place. The statistics show that the mortality of the surgical treatment of gastric ulcer is much greater than that of the medical treatment.

As a Galactagogue:

Calcium Glycerinophosphate.... 1 dr.
 Tinct. Nux Vomica..... 4 dr.
 Elixir Calisaya..... to make 4 oz.
 Tablespoonful four times a day.

Granular Conjunctivitis:

Copper Sulphate..... 1 grn.
 Salicylic Acid..... 2 grn.
 Cocaine Hydrochlor..... 2 grn.
 White Petrolatum..... $2\frac{1}{2}$ dr.

Apply at night. Wash off in the morning carefully, with a warm solution of borax.

Gastro-intestinal Fermentation:

Bismuth Salicylate..... 80 grn.
 Magnesium Salicylate..... 80 grn.
 Sodium Benzoate..... 80 grn.

Divide into 20 powders. One three times a day.

Sodium Sulphocarbolate 5 grn.
 Salol..... 3 grn.
 Magnesium Oxide..... 10 grn.

For one powder. One three times a day, half hour after each meal.

Pernicious Malarial Fever:

Quinine Hydrochlorate.... 45 grn.
 Antipyrine 30 grn.
 Distilled Water... 90 min.

Inject hypodermically 15 min. (cont. $7\frac{1}{2}$ grn. of quinine) at a dose.

Methylene Blue (Medic.).... 2 grn.
 Quinine Hydrochlorate..... 3 grn.
 Powd. Nutmeg..... 2 grn.
 Powd. Black Pepper..... $\frac{1}{2}$ grn.

For one capsule. One such capsule three to six times a day. (This formula is, of course, valuable for ordinary malarial fever.)

Scrofula in Children with Enlarged Lymphatic Glands:

Cod-liver Oil..... 7 oz.
 Iodipin..... 1 oz.
 Oil Orange..... 2 to 3 drops

Teaspoonful three times a day.

An excellent combination. The alterative properties of cod-liver oil are reinforced by the absorbent and resolvent properties of the iodine in the iodipin. Children take the combination readily, and the stomach is not upset. If desired it may be given in emulsion form, as follows:

Cod-liver Oil..... 6 oz.
 Iodipin..... 1 oz.
 Yolks Eggs..... 2
 Brandy..... 2 dr.
 Oil Orange..... 2 to 5 drops

or

Oil Peppermint..... 2 to 3 drops

Teaspoonful to dessertspoonful three times a day.

At the same time the following ointment should be applied at night, or, in severe cases, night and morning:

Guaiacol..... 1 dr.
 Oint. Potassium Iodide..... 3 dr.
 Wool-fat..... 4 dr.

Should be rubbed in thoroughly around the neck, or into the axillæ, etc.

PRESCRIPTION FOR THE ITCH

Dr. C. E. Boynton¹ reports the case of a young man who, having just recovered from an extensive scald of the arm, caught the itch. Colonies extended in all directions, and soon the young man suffered misery. About one application of the following ointment cured him, but he declared that he was nearly frozen by the menthol:

Menthol 40 grn.
 Ichthyol 4 dr.
 Calcium Sulphide 1 dr.
 Sulphur 6 dr.

Wool-fat,

Olive Oil, sufficient of each to make 3 oz.

Apply as required.

¹ *Med. Summary*, Feb., 1902.

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

Pasteur.—There could be no more stimulating example for a young man gifted with what Huxley called the divine thirst for knowledge than that of Pasteur. Those—and there are too many of them among ourselves—who think examinations an all-sufficient test of intellectual capacity, may be invited to mark and inwardly digest the fact that in his examination for the degree of Bachelier des Sciences, Pasteur was put down as mediocre in chemistry, and on competing soon afterward for a place in the Ecole Normale, he was fifteenth out of 22 candidates. All medical men should read M. Vallery-Radot's book, and should give it to their sons to read if they show a wish to enter the profession, or a taste for science.—*The Practitioner.*

Why Do We Drink?—We now and again come across patients who assure us that they never drink, a statement which it is our first and perhaps most natural impulse to regard as an exaggeration. So indeed it may be, for on cross-examination such patients will probably say "Oh yes, I take a little soup, of course." Still the general statement remains true that there are people who never drink in the sense that they never use cup or glass, and there certainly are a large number of people who drink only very little, ridiculously little compared with those around. These are healthy people going about their business calmly, doing good work, and often doing it with far greater comfort than those who, with glass in one hand and handkerchief in the other, mop their faces and declaim against the sweltering weather. Thus we are led to ask Why do we drink? and to answer that for the majority it is to a large extent a matter of habit and of self-indulgence. As the result of habit with many people, the slightest sense of thirst sets up longings which cannot be, or at least are not, resisted, with the result that much more fluid is taken than is wanted. "Are you very thirsty?" inquired the doctor. "Well no, sir, I takes good care o' that," replied the affable patient as he mopped his brow. Much of the constant drinking, not merely of alcoholics but of fluids of all kinds, to which one is tempted at every turn, is quite unnecessary and only leads to flabbiness and discomfort. In considering the amount of fluid we ought to drink we must always bear in mind the quantity of water which is contained in our ordinary food. According to Parkes we may take it that we require for ordinary work about three times as much water as of food (calculated dry), namely, about 75 per cent. of the whole intake, and if we look at the table in which he gives the amount of water contained in the various kinds of food, we find how many articles carry with them more than the required proportion. For instance, beef steak contains 74.4, white fish 78, poultry 74, potatoes 74, cabbages 91, carrots 85, vegetable marrows 95, and even dry bread contains 40 per cent. of water. As to fruits, apples contain 82 and strawberries 90 per cent. of water. Gravies, sauces, etc., and all forms of milk puddings, also contain more than the full average supply of water required, so that it evidently would be an easy task to arrange a diet which, although solid enough for all demands, would not require to be supplemented by actual drinking. If, however,

we will but partake of fluid in moderation, say 40 ozs. or 50 ozs. a day, we are the better for it, for certain foods require the production of a not inconsiderable amount of digestive juices for their proper assimilation, and if we persist in eating so much meat as so many of us do a fair amount of water must be taken to wash out the nitrogenous waste which such a diet produces.—*London Hospital.*

An Extraordinary Case of Quinine Susceptibility.—Cases of eruptive phenomena from the ingestion of quinine preparations are common enough in literature, and fairly well known, and therefore the publication of new instances is probably only justified by some unusual feature or for the purpose of calling attention to the possible confusion of some of these rashes with the exanthemata, especially with the so-called second attacks of the latter. The case which I shall briefly detail is one especially striking on account of the smallness of the dose necessary, the many ways in which the drug, surreptitiously so to speak, gains access, and the uncomfortable results which follow. The patient is a gentleman of good health, robust habit, and at the present time is in middle life. So far as he can recall he has had in all about twenty to twenty-five attacks of a scarlatiniform erythema followed by branny and lamellar and sheet-like desquamation, with more or less accompanying itching, and running a course of several weeks. The cause of the first three or four outbreaks was not even suspected. I saw this gentleman several years previously in one attack in consultation with Dr. H. A. Smith of Philadelphia, who had already seen the patient in one or two other attacks; and who, together with the patient himself, whom I saw a few weeks ago for the purpose of having the data corroborated, has kindly placed at my disposal most of the facts here given. I shall only refer to eight or ten outbreaks.

The attack which threw the first light or suspicion on the probable cause occurred some years ago. At the time the patient was not feeling up to his usual standard, and consulted a prominent physician in my city, who was then his family attendant, and who prescribed for him quinine in the average dose, the exact amount of which he does not recall; this was immediately followed by a rapid development of a scarlatinous rash, which was thought to be an example of a second attack of scarlet fever. It ran a somewhat similar course, and when it had about passed off, after the resulting exfoliation was practically ended, as he was not feeling in very good condition, a tonic containing quinine was given him to brace him up, and he forthwith had another attack. Some time later, not feeling up to his general tone, he thought he would consult a distinguished surgeon of our city, since deceased, whom he knew both socially and professionally, and stated to him that he felt that he needed a tonic. At the same time he called his attention to his extreme susceptibility to quinia, concerning which the physician remarked that it was all nonsense, and then prescribed for him a mixture of which the basis or vehicle was the elixir of calisaya, each dose containing about one-eighth of a grain. One dose of this mixture was sufficient to apprise him that he had taken the drug, and another outbreak resulted. Another instance was when he dropped in on a relative—a druggist—whom he happened to find just at that moment engaged in the manufacture of a preparation of bitter wine of iron, of which he thought highly, and the enthusiasm of the druggist affecting his visitor, he sipped some,

and within an hour or so he was again ushered into another scarlatiniform cycle of a few weeks' duration. At another time, some years ago, he was visiting in Boston, and while out walking with his host or friend, his companion was expatiating upon the merits of a new drink; he was induced to try one, and as one of its good qualities was due to a pleasant bitterness from a trifling amount of calisaya bark, it was but a brief time before the Philadelphian was again in the throes of another outbreak, and his eastern visit was stripped of some of its pleasantness. Once subsequently he was again the victim of an enticing decoction. He and a few friends were on their way northward for a fishing trip; they were joined at an interior Pennsylvania town by a friend who was to go with them, and who, to make his welcome the more hearty, had had prepared and brought on board of the train with him a cocktail for each one of the party—which was properly enjoyed—but the susceptible quinia friend soon found that a cocktail usually contains bitters, of which calisaya is often a representative, and instead of going fishing was obliged to retire and go through the process of again shedding his epidermis.

A few years later at the end of an acute pulmonary disease, as he was not making rapid progress towards complete recovery, two other physicians were called in as consultants, and who, although made aware of the quinia idiosyncrasy, but not placing the same weight upon it that the patient did, finally agreed that the compound syrup of the hypophosphites, made by a western manufacturing firm, was the right thing for him, considering that the amount of quinia contained therein was practically nil—but one dose of it was enough to bring on another ordeal of the scarlatiniform rash, with its usual course. Some time after this experience, perhaps a year or two, he was on a pleasure visit to a southern sulphur spring resort, and on a social call on a prominent physician there whose name is familiar to us all, and while in his house, in response to a question about his health, casually remarked that he had a slight coryza, and he was kindly offered a rhinitis tablet. Naturally his immediate inquiry was as to whether it contained any quinine, the physician replying that it did not, and in order to convince him and relieve his mental doubt and agitation, showed him the book of formulæ of the firm manufacturing it. It was taken, but it was but a few minutes, however, before the patient became aware that the tablet contained the dreaded drug, and his pleasure visit was turned into several weeks of discomfort, with the initial lobster red skin and the subsequent exfoliation. Unfortunately the book which contained the printed formulæ was an old one, and an inspection of a more recent list showed that the rhinitis formula had been somewhat changed, and now contained one-eighth grain of quinine. It was some months perhaps after this when his family physician was called in to see him, as he was suffering from a slight cold. His physician usually carried with him a small supply of tablets, of which he prescribed some composed of several ingredients, of which the patient was to take one every half hour or hour. Being well aware of his patient's idiosyncrasy, nothing was said on the subject of their composition. The physician had been but a short time at his office, after his return from this visit, when a messenger came from the patient, asking if the tablets contained quinine, as he was experiencing the first sensation of cutaneous warmth or flushing, although he had

taken but one tablet. Sure enough it had inadvertently been forgotten or overlooked that the tablet contained, in addition to other ingredients, one-sixteenth grain of the salt, and this was enough to bring on an attack, which followed as a matter of course. It was in this attack that I was called in as the consultant. A few years later while the gentleman was in Paris, he ran out of his supply of tooth powder, and went into a nearby drug store to replenish. The druggist especially recommended a liquid tooth wash of his own preparation, which was accordingly purchased. After the second toilet usage of this he had another general attack just as violent as those which had preceded it. An American physician resident in Paris was called in, and who subsequently upon inquiry discovered that the tooth wash contained an infinitesimal quantity of calisaya to give it a clean and refreshing taste. Some time after this, when in Philadelphia again, he went into the barber shop of a prominent clubhouse of which he is a member, and had his hair cut. The barber followed it with a hair tonic. While still in the chair, after the hair had been rubbed dry and combed, by a peculiar cutaneous sensation he was led to ask the barber what he had put on his scalp, stating at the same time that he felt as if he had taken a dose of quinine; to which the barber replied that it was a quinine hair tonic that he had used. Remarkable to say, and almost impossible to believe, the patient was thus brought again into another well marked attack. The application itself did not irritate, nor did the rash begin in the scalp, but the attack was the same as all the others, and presented itself in the usual manner.

Thus is outlined a part—a greater part probably—of this gentleman's curious experience with this drug. In short on many occasions his life has been made burdensome by this extreme susceptibility, against which he is not always able to protect himself, unless he eschews drinks and compound medicines of all kinds. Even then, as has been seen, he may be the victim of a dentrifrice, a hair tonic or similar unsuspected and innocent looking article or preparation. He is even somewhat panicky when obliged to consult a strange physician, for in spite of his statements of his susceptibility, which he of necessity feels obliged to refer to strongly, he is not sure, but as before, the matter may be considered over-exaggerated or nonsensical, and the liberty again taken to give him at least a compound tincture of cinchona or elixir of calisaya as the basis or vehicle of the formula prescribed. The attack as I saw it, which was stated to be the same as all the others, was distinctly suggestive of scarlet fever, as the quinia rash usually is. On the first one or two days, moreover, there was slight temperature elevation, and the skin was of the bright punctiform red color. The redness subsides in from two to four or five days, and this is followed by the thin epidermal exfoliation usually observed in the scarlatinous rash. Strange to say, the patient stated to me that but a few minutes elapsed after he has taken the drug before he feels a flush go over the entire surface body, and he knows at once that the mischief has been done. His nails have always remained unaffected.—Henry W. Stelwagon, *Jour. Cut. and Genito-Urin. Diseases.*

Quality and not quantity must be the watch-word of a dignified medical journalism, as of a dignified lay journalism.—*Boston Med. and Surg. Jour.*

Book Reviews

VOLUME VI of COHEN'S SYSTEM OF PHYSIOLOGIC THERAPEUTICS is by N. S. Davis, Jr., and is devoted to Dietotherapy, or to Food in Health and Disease. We regret to say that we do not consider this volume as satisfactory as the others of the series. It is chiefly a compilation of well-known facts and data, and it cannot therefore be considered an important contribution to medical literature. Many of the dietaries prescribed for various diseases could be criticized, but we forbear, as the entire subject of dietetics is at present in a period of transition, and many of the reigning notions will probably soon be dethroned. Thus, for instance, the number of physicians is constantly increasing who deny the necessity of decreasing the amount of carbohydrates in diabetes. Cutting of carbohydrates diminishes the amount of glucose in the urine, but does this *cure* the disease, which is the cause of the glycosuria? The volume contains many instructive tables taken from various sources, and as a reference book we can recommend it to every practitioner. (P. Blakiston's Son & Co., Philadelphia. Eleven octavo volumes. Price for the set complete, \$27.50 net.)

HAYDEN'S VENEREAL DISEASES forms one of Lea's series of pocket text-books. It gives a very satisfactory exposition of our present-day knowledge of gonorrhea and syphilis, and their sequelæ, and will be found especially useful by students. All debatable questions, the history and statistics of the diseases, etc., have been omitted; but what is left is good, common-sense matter, treated in a concise manner and from a rational, conservative point of view. (Lea Bros. & Co., Philadelphia and New York. Cloth. Price, \$1.50 net.)

A MANUAL OF OPHTHALMOSCOPY. By Dr. J. E. Jennings. We have examined this little volume carefully, and while it does not exactly "fill a long-felt want," we consider it a very satisfactory manual for students and general practitioners. The illustrations are particularly clear and the text is written in clear and concise language. The drawings are mostly original, and there are 95 illustrations and 1 colored plate. (P. Blakiston's Son & Co., Philadelphia. Large 12mo. Price, \$1.25 net.)

SYPHILIS—A SYMPOSIUM. This is a reprint of several short articles that appeared in one of the "special" numbers of the *International Medical Magazine*. The subject is treated in an easy, rather popular style, and some of the best-known syphilographers are represented in the discussion. While no new points are presented, the general practitioner will find this little volume worthy of perusal. Syphilis is one of the most widespread of all diseases, and a thorough knowledge of it in all its aspects is of the utmost importance—especially in view of the fact that it has so many innocent victims. (E. B. Treat & Co., 241 West Twenty-third Street, New York. Cloth. 122 pages. Price, \$1.)

LEÇONS CLINIQUES D'OPHTHALMOLOGIE. In twenty-three chapters or lessons the well-known Paris ophthalmologist, Prof. Galezowski, considers some of the most important problems in ophthalmology. Written with the clearness and conciseness which are characteristic of the

French language more than of any other, the volume will prove interesting reading even to those whose specialty is not ophthalmology. Heredity is considered by the author one of the most important factors in myopia, and in discussing the treatment of ocular syphilis he puts himself down as an emphatic opponent of intravenous injections of mercurial preparations. He says they are not as free from danger as some would try to make us believe. (Félix Alcan, Editeur, Paris.)

Pamphlets Received

Report of the Surgeon-General of the U. S. Navy, 1901.

Gynæcologische Krankheitsbilder von Allgemeininteresse. Von Dr. Foerster.

A Prophylaxis of Tuberculosis. By Joseph Kucher. Reprint from the "Medical Record," September 28, 1901.

The New Formation of the Female Urethra. By Charles P. Noble, M.D. Reprinted from the "American Journal of Obstetrics," XLIII, No. 2.

The Complications and Degenerations of Fibroid Tumors of the Uterus as Bearing upon the Treatment of These Growths. By Charles P. Noble, M.D. Reprinted from the "American Journal of Obstetrics," XLIV, No. 3.

The Practitioner's Treatment of Inflammatory and Ulcerative Conditions of the Larynx. The Pneumatic Sinuses in the Sphenoidal Wings. Emphysema of the Eyelid from Nasal Causes. Nasal Condition Observed in the Aged. By Beaman Douglass, M.D.

General Considerations of Treatment of Placenta Previa. By Charles P. Noble, M.D. Reprinted from the "Therapeutic Gazette," May 15, 1901.

The History of the Development of Medical Science in America. By H. R. M. Landis, M.D. Convulsive Tics. By Otto Lerch, A.M., M.D., Ph.D.

Malarial Hemoglobinuria. By Otto Lerch, A.M., M.D., Ph.D.

Moderne Gedanken über Feuerbestattung. Vierte Auflage, Mit Benutzung der "Urn."

The False Atomic Weights of the Smithsonian Institution. By Gustavus Detlef Hinrichs, M.D., LL.D. Reprint from the "National Druggist."

Devitalized-Air-Toxæmia, a Prime Cause of Tuberculosis. By Charles Denison, A.M., M.D. Reprint from the "New York Medical Journal."

The Relation of Outdoor Life to High Altitude Therapy. By Charles Denison, A.M., M.D. Reprint from the transactions of the Colorado State Medical Society.

The Diagnostic Importance of the Examination of the Feces. By Charles D. Aaron, M.D. Reprint from the "Fort Wayne Medical Journal-magazine."

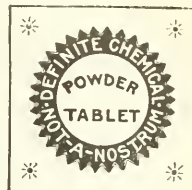
The Hemorrhagic Diathesis in Relation to Operation on the Nose and Throat. By E. Harrison Griffin, M.D. Reprint from the "Medical Record."

La Méthode Antiseptique dans le Passé, le Présent et L'Avenir. Par le Dr. Lucas-Championnière.

Announcement of the Kentucky School of Medicine and Hospital, 1902.



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Miscellany

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CHINESE PROVERBS ABOUT WOMEN.—Respect always a silent woman; great is the wisdom of the woman that holdeth her tongue.

A vain woman is to be feared, for she will sacrifice all for her pride.

A haughty woman stumbles, for she cannot see what may be in her way.

Trust not the woman that thinketh more of herself than another; mercy will not dwell in her heart.

The gods honor her who thinketh long before opening her lips.

A woman that is not loved is a kite from which the string has been taken; she driveth with the wind, and cometh to a long fall.

A woman that respects herself is more beautiful than a single star; more beautiful than many stars at night.

Woman is the ease for that which pains the father; she is balm for his troubles.

A woman who mistakes her place can never return to where she first was; the path has been covered up from her eyes.

A woman desirous of being seen by men is not trustworthy; fear her glances.

Give heed to her to whom children have come; she walks in the sacred ways, and lacks not love.

A mother not spoken well of by her children is an enemy of the State; she should not live within the kingdom's wall.

A woman without children has not yet the most precious of her jewels.

Give heed to the voice of an old woman; sorrow has given her wisdom.

A beautiful woman knows not her charms, therefore is she beautiful, more so than the colors of the sea.

Like sheep that are leaderless are many women come together for much talk.

The happiest mother of daughters is she who has only sons.

The minds of women are of quick silver, and their hearts of wax.—*Charlotte Med. Jour.*

THE QUALIFICATIONS TO PRACTISE MEDICINE IN MEXICO.—In reply to inquiry as to the routine necessary for a foreigner to become legally registered for the practice of medicine and surgery in the Republic of Mexico, will say that I can best inform you by giving the exact routine through which my diploma passed. The same law is now in vogue.

The following data are taken from the decorations of my diploma, and are full and reliable. It was ten months from the time I started my diploma until registration was completed, and the entire cost was \$168.

To the casual observer this will appear like a long piece of "red tape," but it is not; the law is a good one, and the sooner it is strictly enforced the better it will be for the entire medical profession in Mexico.

There are very few foreign physicians legally registered in Mexico, most of them practising in open violation of the law. This is not only wrong and unprofessional, but is dangerous. The penalty is severe and is now being enforced, except a few places on the frontier in isolated districts.

To register in Mexico the applicant must possess a diploma conferring on him the degree of

M.D. He must prove that the diploma is genuine and that he is the person whose name appears on the diploma. In order to do this he should place his diploma in the hands of an express company, with carefully written instructions as to every step to be taken. The express company will perform this service faithfully and with less expense than any other method. The following are the steps necessary:

The diploma must be taken to the faculty which conferred the degree. The faculty must go before a notary or other county official having notary power, and certify that the diploma and signatures thereon are genuine. It is then sent to the secretary of the State in which the diploma was issued. The secretary will certify that the notary in the county aforesaid is a duly authorized official and that his signature is genuine, and that the faculty of medicine aforesaid is duly authorized by the laws of the State to confer the degree of Doctor of Medicine. Thence the diploma goes to the governor of the State, who will certify that the signature of the secretary of the State is genuine, and places the seal of the State on his affidavit. The diploma then goes to the Secretary of State of the United States, who certifies that the signature of the governor of the State and the State seal are genuine. The Secretary of State then places the seal of the United States on his affidavit.

The diploma then goes to the Mexican ambassador in Washington. The Mexican ambassador certifies that the signature of the Secretary of State of the United States and the seal of the United States are genuine. The ambassador then places the seal of the Mexican ambassador on his affidavit. Thence the diploma goes to the Secretary of Foreign Relations of Mexico in Mexico City. The Secretary of Foreign Relations will certify that the signature of the Mexican ambassador in Washington and the seal of the Mexican ambassador are genuine. The secretary will then place the seal of the Secretary of Foreign Relations on his affidavit.

The diploma is now returned to the owner. The owner or applicant must attach to his diploma a certified photograph of himself. He must make an affidavit that he is in fact the party whose name appears on the diploma, and to this affidavit must also be attached a certified photograph of himself. He must secure the affidavit of three well known and responsible men that he is in fact the party whose name appears on the diploma, and that the photograph attached thereto is a true photograph of himself. He must now, in writing, make a petition to the governor of the State in which he wishes to practise, praying the governor, in consideration of the diploma and the evidences and affidavits attached thereto, to grant him permission to practise medicine and surgery in the State.

This petition, accompanied by the diploma and all the certificates and affidavits described above, must be sent to the governor, and must be accompanied by \$78 to cover certain fees.

Now the Faculty of Medicine in the City of Mexico is the sole judge as to whether or not a diploma comes from a college worthy of recognition. If so, the diploma is accepted by the governor; if not, it is rejected and the applicant has his trouble and expense for nothing.

If the governor accepts the diploma as coming from a worthy college, he will issue to the applicant a certificate, either to practise in the State or to enter the examination for license to practise.

Some States require an examination after the

(Continued on p. xiv)

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(Continued from p. xii)

presentation of a recognized and certified diploma, while others require only the presentation of a certified diploma from a recognized school.

The applicant's certificate to practise must finally be registered with the president of the district in which he lives, and he will then pay a monthly tax ranging from \$2 to \$10, according to the amount of his income.—R. D. Robinson in *Med. Age*.

[For MERCK'S ARCHIVES]

THE LAMENT OF THE "KNEIPP CURE" VICTIM.—It's a wonder that we ever smile with all the strain we have to bear,

Just think of what we go through, each day that we are here!

In the first place, there's the burden of our illnesses and woe,

That these ills are many and varied the following list will show:

Bronchitis, tonsillitis,
Pharyngitis, laryngitis,
Peritonitis, meningitis,
Diabetes, appendicitis,
Nervous prostration,
Lack of circulation,
La grippe, neurasthenia,
Insomnia and anemia,
Nervous debility,
Lack of agility,
Pneumonia, rheumatism,
Pleurisy and embolism,
Typhoid fever, aneurism,
Non-assimilation,
Lack of elimination,
Nerve exhaustion, brain fatigue,
Paralysis or heart too big,
Spinal irritability,
Lack of nerve stability,
Cardiac palpitation,
Nervous agitation,
Inanition, mal-nutrition,
Asthma and sciatica,
Headache and malaria,
Tuberculosis and hysteria,
Amputations and neuralgia,

And now to continue with medical phraseology,
Please note these aids to the study of symptomatology:

Faintness, dizziness, weariness,
Heaviness, cheerlessness, dreariness,
Chilliness, crossness, shakiness,
Feverishness, stretchiness, peevishness,
Shiveriness, hopelessness, unhappiness,
And all the other wretchedness.

Added to these burdens, when we tell the doctor of our throbbing nerves,

"If you only could believe it, you're much better," he observes.

Water treatments soon will help you, combined with "Zander" movements, too,

Some dieting, the fresh air, and daily walks in sun and dew,

And here's the burden of the chorus, which he sings to me and you:

DOCTOR'S REFRAIN.

For it's cold water, it's hot water,

Which will cure you all in time,

And it's hot bakes and mud baths.

That will make you feel "just fine."

"Hay-flower" bathings, and cool showers, cold packings and salt-rubs,

Baths electric, great big horse-squirts and bathings in sitz tubs,

Needle douches, physical culture, electricity and massage,

Don't be afraid of treatments, nor stop for weakness or for age,

"Good digestion then on appetite will wait,"

"Kneipp soup" will e'er stay down,

You can go to bed right early and sleep both long and sound,

For it's Kneipp cure, Kneipp cure is the healer, when medicine won't do,

Please exercise your patience and we'll surely pull you through.

—(Miss) E. R. Allen, Milwaukee, Wis.

THE RETURN OF THE HORSE.—Three years ago, every one was predicting the elimination of the horse from the utilitarian world and also from the world of pleasure and amusement. The bicycle fever was then at its height; and every man, woman, boy and girl in the country was either riding a wheel or else planning how to get one. Bicycle parties were fashionable. Bicycle language was spoken as extensively as the language of golf is spoken to-day. Go where you would, you could hear nothing but talk about different models and "century runs" and the condition of the highways; while map-makers reaped a small fortune by publishing little guides and road-books for the use of the bicycle fiend. Even the crowded streets of the city swarmed with riders. Business men rode down to their offices on bicycles, and many of them took spins in the park before breakfast. The great avenues of our larger cities were made exceedingly picturesque in the dusk of evening by the endless line of bicyclists whose lanterns in the darkness produced the vivid effect of a river of colored fire.

It is rather interesting to note that at the present time the bicycle craze, as a craze, has utterly subsided. We still see both men and women mounted upon wheels and going about from place to place; but their numbers are comparatively few, and the joy of the wheel seems to have departed. No one any longer talks about the bicycle. Very few ride it for the pleasure of the thing. It is sometimes a convenience, and it is sometimes a necessity; but it has become commonplace and no longer excites especial interest. One reason for this is to be found in the fact that it is no longer fashionable; and it has ceased to be fashionable simply because the possession of a wheel is now quite possible to every one. Three or four years ago a good model cost a hundred dollars, but at the present time it can be purchased for a quarter of that sum, while a very fair one can be had for even less. Hence, fashion has turned its back upon the bicycle and is smiling upon the automobile, which still remains an expensive luxury, and one that is possible only to the few. But the history of the bicycle will presently repeat itself in the history of the automobile as competition among manufacturers becomes keener and the processes of production become cheaper. The cachet of exclusiveness will have been removed and with it half the charm of ownership.

It is somewhat interesting in connection with these facts to note that the demand for horses is greater now than at any time within the past ten years, and that saddle-horses in particular command higher prices than ever before. The immediate cause of this is to be found in the change that has come over the social life of those among us who possess great wealth and who have the leisure necessary for its enjoyment. Our millionaires, presumably from their more intimate acquaintance with the customs of the English, have begun to recognize and appreciate the pleasures of country life. They have taken to outdoor exercises. They hunt; they shoot;

they play golf; they give house parties; and, above all, they ride. Each member of a rich household must now possess a mount. The master must have two or three saddle horses, the children must have their ponies; and, besides carriage horses, there must also be animals for polo playing and for the use of guests. You will now see in Lenox and the Hamptons whole cavalcades of riders issuing from the gates of country places—men, women and children—all mounted and going forth for a gallop across the country. The popularity of the horse rests, indeed, upon a sound and lasting basis; for bicycles and automobiles are fads of the moment, while the love of the horse is rooted in something which is immutable. First of all, the rider of the horse finds in his animal not merely a means of locomotion, but a feeling of companionship. A horse can recognize its rider, answers to his touch upon the rein and responds at once to his control and to his liking. A horse, moreover, gives to his rider the subtle pleasure which comes from a sense of mastery. No combination of leather and steel, no mechanism that is worked by a crank and that puffs out stench, can ever give this feeling. Moreover, the limitations upon the horseman are very few. To him not only is the highways open, but the fields as well, the rocky hillsides and those delicious bridle-paths that penetrate the heart of the dewy forest all redolent of the fresh earth and the cool leaves and eloquent of nature in its simplicity and restfulness. The horseman rides along with a certain exaltation, a deep and lasting pleasure utterly unlike the tense absorption of the scorchers with his set bicycle-face and his eternal preoccupation over the various objects which may at any moment upset his machine and leave it with a punctured tire.

The moral influence of the horse is also very noticeable to one who studies human beings. There is something noble about a horse, and his intelligence is so nearly human that he humanizes those who love him. Horsey men, in whatever grade of life you find them, may lack many desirable qualities, but in them the human element is always very strong. They may be crude; they may be even vulgar; but there is always in them a certain geniality and mellowness and generosity. All this explains just why it is that while fads arise and perish and while fashion goes on from year to year chameleon-like, in the multiplicity of changes, the love of the horse will never die out of the human heart, because it springs from a feeling and a liking for all that is sane and wholesome and elemental.—H. T. P. in *The Bookman*.

THE IMPORTANCE OF NOTE-TAKING is not generally appreciated by practitioners of medicine and surgery. Careful notes on cases lead to more careful observation of cases and hence to a more thorough understanding of them. Most of the leaders in our profession have been careful note-takers, and no doubt the accuracy of observations which this habit tends to develop has been, to a considerable degree, responsible for their success.

Among the writers of eminence who have emphasized the importance of careful note-taking is Sir Benjamin Brodie. His ideas on this subject, as well as on many others, are still well worth reading. In an introductory lecture at St. George's Hospital, London, October 1, 1838, Brodie expressed himself as follows: "It is not by going through the form of walking round the wards daily with the physician and surgeon that you will be enabled to avail yourselves of the

(Continued on p. xvi)

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(Continued from p. xv)

opportunities of obtaining knowledge, which the hospital affords. You should investigate cases for yourselves; you should converse on them with each other; you should take written notes of them in the morning, which you may transcribe in the evening, and in doing so you should make even what are regarded as the more trifling cases the subject of reflection. Some individuals are more, others less, endowed by nature with the power of reflection; but there is none in whom the faculty may not be improved by exercise, and whoever neglects it is unfitted for the medical profession. You will be at once sensible of the great advantage arising from your written notes of cases. But that advantage is not limited to the period of your education. Hereafter, when these faithful records of your experience have accumulated, you will find them to be an important help in your practice."

But the benefit should not be alone for the one who takes the notes, for cases of special interest should be reported for the benefit of others and satisfactory reports are impossible without note-taking. We know a number of men of ability and wide experience who report cases and omit the most important details, such as the age of the patient, the duration of the illness, etc., well-known surgeons who report about 100 operations or the excision of tumors weighing about ten pounds. Such slipshod reports are usually from the lack of careful observations and records, and they lose most of their value from lack of accuracy. Our own memories are so inaccurate that we feel a little uncertain as to the reliability of the report made from memory, months or years after the case was under observation.

To make satisfactory notes when crowded with other duties and tired requires will power in the start, but when once the habit is formed, the work soon becomes less laborious. Brevity of statement, the omission of all useless details, and a good system of abbreviations will lighten the work. It should always be remembered that a record taken on the spot at the time of the observation is much more likely to be accurate and less likely to be forgotten.

Careful notes on cases are specially desirable in hospitals where the wealth of material is great, but it is a lamentable fact that accurate history-taking is not common, and perhaps there are not a dozen hospitals in the United States in which the histories have been so carefully taken and put in such form as to be of much service for those who might wish to make use of them. All those in any way influential in the management of such institutions should at once take steps to see that this state of affairs is remedied.—*Amer. Med.*

A. QUESTION FOR THE CASUIST.—If members of the clerical profession are troubled with an *odium theologicum*, the followers of Esculapius are surely harassed by an *odium malum per se*.

A woman comes to the physician. "Doctor, I am quite sure I am two or three weeks *eniente*. I have been married twelve years and have borne seven children. You can see I have had no rest. The strain has been terrible. Life has become a burden. Surely no more child-bearing should be expected of me. Won't you help me, please?" And there are tears in the eyes of this woman of thirty, who looks at least forty years old.

It is not the large money offered that appeals to the conscientious physician—it is the woman herself. Life stretches around her an arid desert. Broken down physically, utterly discouraged, her blurred mental vision sees on life's desolated

plain few oases. No flowers, no song; aspirations to do something, to be something other than a household drudge, fading away in memory's dim mist.

"This supposition is absurd," says Herbert Spencer, "that the happiness of all can be achieved without each pursuing his own happiness." This woman has a right to be happy. No one has a right to dispossess her of this right. She is suffering a wrong. Through her, society, the world, suffers an injury incalculable.

But the law says that if you assist her you commit a crime. How is it, doctor—in all cases other than for the preservation of the woman's life, should it be considered a crime? Should the letter and spirit of arbitrary law always be carried out regardless of deplorable consequences? In the main, society is probably right in its contention that the destroying of fetal life is immoral, and that penalties should be attached. Can a conceivable circumstance arise where destroying the product of a conception is not immoral, unmanly or unwomanly? In a case like that above cited, if the woman and doctor are willing to incur the risk to her health, the risk of detection, and everything terminates favorably, has there or has there not an injury been done to the individual, to society?

Delicate questions of grave moment. They continually vex the soul of every honorable physician. The thought that for any act of his he could be rightly classed in the list of those selfish, mercenary wretches, who for a consideration are always willing to commit an abortion, is mortifying and abhorrent. Is it a doctor's duty to make an ironclad rule that never under the most extraordinary circumstances will he assist a woman in an emergency?

How about this, Mr. Casuist? Answering affirmatively to this question, are you absolutely sure that no valid argument could possibly be urged for the negative?

It is said that in the olden time an accursed criminal stood in an arena before assembled thousands of people. It was the king's decree that the accused must cross the arena and open one of two doors that were side by side. Behind one door was a beautiful lady; behind the other a ferocious tiger. To open the one door meant life; to open the other meant death. But the man did not know which one he should enter to gain his life.

Every physician can imagine a case where assistance rendered a young girl for a first thoughtless indiscretion means life; assistance refused means death—black, grim, eternal!

What will you do, gentlemen? Which shall it be—"the lady or the tiger?"—Willis Mills, M.D., in *Med Brief*.

EFFECTS OF CLOSE SHAVING.—A writer in the *Medical Classics* looked through a microscope at a closely shaved face, and he reports that the skin resembled a piece of raw beef. "To make the skin perfectly smooth requires," he says, "not only the removal of the hair, but also a portion of the cuticle, and a close shave means the removal of a layer of skin all around. The blood-vessels thus exposed are not visible to the eye, but under the microscope each little quivering mouth holding a minute blood drop protests against such treatment. The nerve tips are also uncovered, and the pores are left unprotected, which makes the skin tender and unhealthy. This sudden exposure of inner layer of the skin renders a person liable to have colds, hoarseness and sore throat."—*The St. Louis Med. and Surg. Jour.*

MERCK'S ARCHIVES

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Be Guarded in Your Prognoses

A PROGNOSIS may be wrong in one of two opposite directions: a favorable prognosis may be given, and the disease proceed to a fatal issue; and *vice versa*, the prognosis may be absolutely gloomy and unfavorable, and the patient may recover and live for many years.

It is of these gloomy prognoses that we wish to speak now. A wrong favorable prognosis is by far not so serious in its consequences, provided the disease was not made light of. An easy explanation can always be given: the disease took an unexpectedly bad turn, one that could not possibly be foreseen; the doctor did not want uselessly to alarm the patient and those around him, etc. Besides, a favorable prognosis has a real therapeutic value, and by buoying up the patient may actually help to turn the tide in a favorable direction. The consequences, however, of a positive unfavorable prognosis, subsequently belied, are very serious. First of all, they make the physician ridiculous. The patient who was doomed to death by Doctor X. long ago, and who is not only among the living, but enjoys perfect health—not a rare phenomenon—makes Doctor X. the butt of all gossips and wags; he becomes an object of derision and ridicule, and ridicule is fatal to success. Besides, a gloomy prognosis has frequently a very unfavorable effect on the course of disease. This is a point unfortunately still little appreciated

by many physicians. It is useless to give the patient a favorable prognosis, and an unfavorable one to those around him. It is impossible for the relatives and friends to conceal and dissimulate; the patient learns the truth from the faces, gestures, whisperings, etc., and finding that his condition is such that it is necessary to conceal from him the true state of affairs, he falls into a condition of apathetic despair.

But there is another aspect to the subject, an aspect which we do not think has heretofore been considered, but which is of the highest importance, as it deals with the influence which is produced on the community at large—its relations towards the medical profession and the growth of quackery. We know that the unguarded prognoses of some physicians have been one of the most potent factors in the growth and dissemination of the various humbugs, frauds, and quackeries. A patient is declared incurable, is, so to say, doomed to death by a regular physician, perhaps one thoroughly competent and conscientious. The patient in despair looks for help from any quarter and falls into the hands of some ignoramus, Christian scientist, or other humbug. Regardless or in spite of the treatment or the non-treatment, the patient occasionally happens to recover. Presto! The whole neighborhood or even town is agitated with the information—and the newspapers may announce it in black

headlines—that So-and-So, who has been given up by the best physicians, has been cured by the marvelous healer Quack. The common people can not be expected to reason coolly and scientifically, to collate statistics, to consider the immeasurably larger percentage of correct prognoses in comparison with those that have proved wrong, etc. They see or hear of a fact, and that is to them of more weight than thousands of arguments. The harm, therefore, that such an occurrence works in any community is incalculable.

A few facts that came under our personal notice or that have recently been recorded in current literature will prove interesting reading and should serve as a warning and an object lesson to our readers. A physician with a large practice had been treating a patient who was in the third stage of pulmonary tuberculosis and suffered with severe and frequent hemorrhages. On three or four occasions these latter were so severe that the patient fainted, and it took quite some effort and time to revive him. The stomach was very irritable and both food and medicine were frequently rejected. The general condition was getting worse, the pulse was at times hardly perceptible, and the voice of the patient was only a hoarse whisper. The physician gave an absolutely unfavorable prognosis, putting the limit of life at a few weeks. A month passed, the patient's condition had been getting progressively worse, the hemorrhages were repeated three or four times a day, and at last the physician, who had been annoyed several times a day with demands to call, said that it was simply useless for him to continue calling, that the patient might die at any hour, within two or three days anyway. When a patient is "given up" absolutely, he himself and his relatives feel themselves justified—and so they are—to catch at anything that promises relief or cure. A friend recommended a mental healer who "performed the most wonderful cures," and the healer was called in. With delightful nonchalance, which is common to those who can not diagnose between a bronchitis and pulmonary consumption, or between a lipoma and a carcinoma, he

promised a perfect cure. In two to three days the hemorrhages stopped—as they had done many times before—the patient rallied, as he had many times before, and the fame of the great healer rose still higher. The rumor of this wonderful cure spread still further and brought an abundance of shekels into the healer's coffers. The patient lived for fully eight months after the cure. The last two months were passed in great agony, which even the healer could not relieve, but this fact did not dim his fame. The fact that he "cured" a dying man after he was "given up" by his doctor covered and will continue to cover a multitude of failures and sins.

Another case is that of a young woman teacher suffering from some "heart trouble," which her physician pronounced absolutely fatal. She had been in bed for several months, very weak and able to walk only with difficulty. Another physician was called in, changed the treatment, sent the patient to the country and in two months she was in better health than ever, and has continued so ever since.

A third case is that of a woman suffering with Bright's disease. A professor of clinical medicine in one of our colleges, who was called in consultation, gave the probable duration of her life as from two to three months. The woman suffered with general anasarca, her urine was loaded with albumin and with all possible varieties of casts, and, according to all text-book authority, the professor's prognosis was correct. Nine years have passed since that time and the woman is still alive, though her urine has never been free from albumin and she must constantly be taking medicine and be very frugal in her diet. [A note for our friends, the therapeutic nihilists: This woman, who is under the writer's treatment, cannot live without "drugs." No sooner does she abandon medicine for a few weeks than her condition becomes alarming: anasarca makes its appearance, violent uremic symptoms set in, and the proportion of albumin in the urine is increased enormously. This we have had occasion to witness not once, but a great number of times during the last nine years.]

Cancer has so long been considered an absolutely incurable affliction, that the moment the diagnosis is made, the physician considers himself justified in making an unfavorable prognosis. Of course, in by far the greatest percentage of cases the prognosis will prove correct, but even here caution is necessary and for two reasons: first, a diagnosis even by competent men may be wrong, and, second, cases of undoubted cancer have been known to retrogress and to remain at a standstill for a long time; some have even been known to become practically cured. Several cases were reported by Osler, James Pearce, and others. In Nov., 1896, Dr. Pearce Gould showed a patient before one of the London medical societies. The patient was apparently well, notwithstanding that eight months previously she seemed to be near death from recurrent mammary carcinoma, with glandular involvement and secondary deposits in the lung. At the last annual meeting of the British Medical Association Dr. George Thomas Beatson—the introducer of oöphorectomy and thyroid extract in the treatment of cancer of the breast—passed around a photograph of a case of mammary carcinoma in a woman who had been under his observation for six years. Any one looking at the photograph would say that the breast had been removed by the surgeon's knife. This was not the case. The woman had no treatment whatever, but nevertheless the entire mamma had disappeared, together with some glandular enlargement in the axilla.

Beaver's case (see March ARCHIVES) was one in which the diagnosis of inoperable uterine cancer was concurred in by two prominent specialists; in which life seemed to be limited to one month at the utmost and in which thyroid extract produced a cure, the patient leading an active life, free from pain, with nothing abnormal to be found in the pelvis. This should be a warning to us. The most remarkable case, however, is probably one reported by Dr. D. W. Samways in a recent issue of the *British Medical Journal* (No. 2140). While house physician at Guy's Hospital, he had to attend to a patient, an elderly woman, who

was *dying*, from what was diagnosed as cancer of the stomach. There was frequent vomiting of blood in small quantities. Egress from the stomach was prevented by what was supposed from the touch to be a tumor in the pyloric region, and the gastric contents had to be siphoned off daily. There was marked cancerous cachexia, and death was imminent. One day the woman complained that she felt very low, and asked for a tonic. The doctor prescribed a mixture of nux vomica, nitrohydrochloric acid, and gentian, well known at Guy's as *mistura acidi composita*. The patient at once began to make rapid improvement, and was discharged in about a fortnight. Several months after, when the doctor saw her, she was in fair health. He ingenuously adds that he afterward wondered if the diagnosis was inaccurate, or whether the cancer was "capricious."

In the *Deutsche medicinische Wochenschrift* there recently appeared an article by Dr. G. Oeder bearing directly on our subject. It is entitled: "How Long Can a Man Live Who Is Suffering with Diabetes, and Has also Been Attacked with Pulmonary Tuberculosis?" We all know the extreme fatality of diabetes and of pulmonary tuberculosis. When a patient suffering with either of those diseases is attacked with the other, his days, we have been taught and we all know from personal experience, are counted indeed. But even here great caution is necessary in making a prognosis, as Dr. Oeder's case forcibly demonstrates. The patient to whom the doctor was called had all the physical signs of tuberculosis. The sputum contained numerous tubercle bacilli and streptococci; an examination of the urine revealed an enormous amount of sugar, namely, 7.5 per cent. In addition to this, the patient had an abdominal fistula, the result of several operations for appendicular inflammation, which once in a while would become converted into an abscess secreting nasty pus of a fecal odor. The temperature was about 102° and the pulmonary condition seemed to be in an active progressive stage. Pulmonary hemorrhages, one of which was so profuse that the patient fainted in bed, served to make

the prognosis more serious. The absolute hopelessness of the case was fully apparent to the physician; the longest time the patient could live was a few months. He told the wife of the seriousness of her husband's condition, but from a sense of pity he did not tell her just what he thought. And the doctor is thankful that he for once allowed himself to be guided by his emotions. For now, six years after the first visit, the patient is alive and practically well, his fistula healed up, he has gained flesh and attends to his business. He eats carbohydrates, eschewing only sugar. There is still glucose in his urine (a much smaller percentage), but the patient does not seem much the worse for it. As the doctor says, had he unguardedly dropped a word as to the rapidly fatal issue of the case, then the general improvement and standstill of the pulmonary affection would have been ascribed to some quack remedy or to some charlatan into whose hands the patient might have fallen—while scientific medicine would undoubtedly have received an additional kick.

The above-reported cases are not unique. Every physician of a fair practice might be able to relate one or more similar cases. The admonition to be guarded in our prognoses is therefore not out of place. Let us remember that as long as there is life there is hope. Let us further remember that a mistake in diagnosis is possible in the hands of the most skilful physician, and also that the number of incurable diseases and conditions is gradually getting smaller and smaller.

It may be true that there are many cases of latent syphilis which pass unrecognized by the physician; but it is just as certain that many cases are diagnosed as syphilis, which have never had the remotest connection with the disease. As a rule, the syphilologist is apt to exaggerate the number of syphilitics and the prevalence of the affliction. In every obscure symptom which he is unable to account for he sees a manifestation of the dreaded disease, just as many old practitioners are in the habit of labeling every obscure ailment, which does not correspond to the text-book description of any known disease—malaria.

Special Article

TRUE AND FALSE CREOSOTE

IN the following pages the reader will find the historic explanation of how it has come about that, for many years past, there has been a False as well as a True Creosote on the drug market. He will also find there how a widespread movement among pharmacists and druggists has been brought about, tending to *oust* the false, *so-called* "Creosote" from American drug commerce entirely. As a physician, he will rejoice that, at last, substitution of one thing for an entirely different one, with creosote at least, will soon be among the by-gones.

The active movement against the false creosote commenced with the following Memorial to the American Pharmaceutical Association, read at its Forty-ninth Annual Convention, which took place last September at St. Louis:

MEMORIAL

Sept. 5, 1901.

To the President of the American Pharmaceutical Association:

Mr. President:—From over sixty to about forty years ago, the scientific and commercial world both knew of but one substance to be called "creosote." It was described as an "oil" distilled from "tar" at certain temperatures, and possessing notable antizymotic power, especially as applied to meat. From the latter circumstance it obtained its name, which signifies "meat-preserver."

A substance so described had first been found and announced by Reichenbach (1830-32). He discovered it in the tar derived from beechwood. He had, upon ascertaining its peculiar meat-preserving property, coined its name, as before stated.

Only a few years after him (1833-4) Runge, an equally eminent scientist, discovered what seemed to be the same substance, in the tar derived from bituminous coal. It exhibited the same general physical qualities as the creosote of Reichenbach, and yielded a similarly energetic preservative action on organic matter. Consequently—with the methods of organic chemical analysis still in their infancy, as they then were—this was accepted as sufficient evidence of identity. The immediate result was, that for many years thereafter—as stated in the beginning of this Memorial—the belief held universal sway that there was *one* creosote, which might be obtained from coal-tar as well as from wood-tar.

This belief, of course, dominated the medical mind as well as the pharmaceutical, when "creosote" had appeared in the domain of the *materia medica*. Sometimes the one, sometimes the other kind happened to be dispensed and administered; and the clinical reports of physicians on the results obtained with "creosote" in various therapeutic uses were sometimes based on the employment of the one, sometimes on that of the other variety—without the authors' knowing there was any difference between them, or indeed most often without their knowing, or caring to know, the origin of the drug.

(Distinct traces of remnants of this confusion are visible even yet in the descriptive texts relating to "creosote," in several of the medical and pharmaceutical text-books in use at the present day.)

Although careful manufacturers very soon made a practice of labeling their goods with the statement of origin, still the designations "Creosote from Beechwood" and "Creosote from Coal-tar" conveyed no more idea of essential difference than is to-day conveyed, for instance, by the designations "Benzoic Acid from Benzoin," and "Benzoic Acid from Toluene."

This circumstance led, of course, to many varying and even contradictory reports being embodied in pharmacologic and therapeutic literature—as to the action, dosage, toxicity, etc., of "creosote," and consequently to an impression that this drug was exceedingly variable and unreliable. It led, therefore, after a time, to the general disfavoring and discountenancing of "creosote" in many lines of medical practice in which it had at first been joyously and hopefully received. Especially was this the case in the treatment of tuberculosis, in which creosote had found favorable acceptance and high praise at a very early day already, but in which it fell, later on, into entire disuse and disrepute. Creosote has only been revived in this use during a comparatively brief series of more recent years, since the recognition of the distinctive nature of *Beechwood* creosote has become established on clearly defined chemical lines, and has thence grown to be more or less distinctly apprehended by the medical profession. (This revival did not receive its first effective impulse until two French physicians, Bouchard and Gimbert, published the excellent results which the true *Beechwood* creosote had yielded in a series of ninety-three phthisical cases treated by them. This was in 1877.)

So long as the medicinal uses of creosote had remained unimportant in scope and extent, little attention was given to its exact investigation by chemical scientists. Thus, it was not until the "creosote" muddle had continued almost a quarter of a century—in 1858—that Hlasiwetz led the first step toward demonstrating that the characteristic chemical nature of *Beechwood* creosote

is chiefly dependent on its large content of *methyl ethers of dihydric phenols*, among which pyrocatechin-methyl-ether (known pharmaceutically as *guaiacol*) and homopyrocatechin-methyl-ether (creosol) are most prominent; whereas coal-tar and its distillates yield hardly any appreciable amount of dihydric-phenol derivatives, but contain most largely of the *monohydric phenols*. And not until again a number of years later (1867) were those initial researches confirmed and amplified in satisfactory detail by Gorup-Besanez, and later by other scientists. Thus, the actual chemical status of true creosote was not ascertained and placed within reach of the scientific world until fully thirty years' tradition had lent firmly-rooted sanction, in theory and in practice, to the erroneous legends and the consequent abuses that had crystallized around its name.

How slow the percolation or digestion of knowledge is, from theory into practice, from the solid stratum of experimental fact, leached out by purely scientific research, into the broad liquid strata of general practical recognition and utilization, has hardly ever been shown in a more striking way than in this history of creosote. Only a dozen years ago, Holland still had in force a pharmacopœia which expressly permitted the use of both the wood-tar and coal-tar products under the official title of "Creosote!" The confusion prevailing on this topic, up to the present day even, in some of our well-reputed *materia-medica* text-books, has already been alluded to in this Memorial. To quote but one of several prominent instances:—a largely used work of this character, which has appeared in numerous editions, still states in its latest revised edition, that "*Creosote*" (N. B.—Creosote from "*wood-tar*!") acts on the organism "*practically the same as carbolic acid*"; that it is "*a powerful poison, resembling in its symptoms carbolic acid*." Up to less than ten years ago, it also stated that: "*Being a very complex substance, of varying composition, creosote as a therapeutic agent has been almost entirely replaced by carbolic acid*." Only in the last few editions of the book (well-nigh thirty years after Gorup-Besanez had definitely established the all-importance of *guaiacol* and its congeners in the chemical status of *Beechwood* creosote) was this sentence (with others following it) altered to read as follows:

"Creosote . . . has been almost entirely supplanted in therapeutics by carbolic acid for *external* use, and by *guaiacol* for internal administration . . . *guaiacol* being the principal ingredient of creosote."

And, nevertheless, the previously-quoted statements of practical physiological and toxicological identity of (U. S. P.) Creosote with carbolic acid (!) remain uncorrected in the book to this day.

The last-cited amended passage, even as it

stands now, is still misleading in its statement that "Creosote has been *almost entirely supplanted*," etc. If it had been so, there would be little need for the present Memorial.

But lest we seem to be individually critical toward a certain author only (who has, as previously stated, several noted companions in his misconception), we beg to adduce one other of these several examples. It is that of a teacher and writer of at least as broad national repute as the one just quoted. In the most recent edition of one of his therapeutic text-books, he still declares as follows:

"Creosote" (meaning the *pharmacopœial* article) "is chemically almost identical with carbolic acid Its physiological action is almost identical with that of carbolic acid."

And in a recent number of a widely-read medical journal (printed in the present year), the statement is repeated editorially:

"Creosote is almost chemically identical with carbolic acid."

Error, indeed, seems to die hard. For, despite the explicit definition of "Creosote" given by the U. S. Pharmacopœia—and despite also the warning notices affixed by the undersigned to all their "Creosote" labels, of both kinds, and printed likewise in their descriptive literature and reference-books, for many years past—the old confused traditions and fables regarding creosote still appear to *live in practice*, ("here, there and everywhere," one might almost say), in professional and other quarters.

As witness, for an instance, the following passage taken verbatim from the published "Proceedings of the New York State Pharmaceutical Association—1900," page 96, (being part of the "Report of Committee on Adulterations:")

"CREASOTUM, U. S. P."

"Instead of the proper chemical, still much impure carbolic acid, more or less diluted with water and alcohol, is sold as Beechwood creosote. Of the samples collected *more than forty per cent. proved to be the spurious article*, and while the percentage so found is not as large as two years ago, we again repeat what we have said in previous reports, viz., that *there is no excuse for this condition*, as a comparatively easy examination will promptly reveal the character of the liquid purchased."

For another instance, take a portion of a public discussion at the twenty-third annual meeting of the Missouri Pharmaceutical Association, as reported in their published "Proceedings—1901," p. 30. Mr. Mittelbach, of Boonville, Mo., said:

"Another thing I want to speak about is creosote. Merck puts up a Coal-tar creosote and a Beechwood creosote. They are both labeled 'creosote.' I consider this very wrong, for *I do not doubt but what the Coal-tar creosote is often dispensed for the Beechwood creosote*. The average person would not notice the difference and might kill the patient."

Here, then, are two classical witnesses—and others of equally high standing can be cited—to the facts that:

Firstly, an alarming and reprehensible degree

of looseness still prevails in some places, *leading directly to the serious dangers of creosote substitution*;

Secondly, the designating of two different and non-equivalent articles by the *common name of "Creosote"* (notwithstanding the addition of distinctive and qualifying epithets on labels and in books!) is regarded by competent pharmacists as a constant menace of liability to careless substitution.

This second position has still further been reinforced in private letters received by the undersigned from representative professional men, emphatically expressing the view (as quoted here in the words of one of them) that "the word 'Creosote' should be used *only* in connection with the *wood-tar* product"; and that

"*the correction of the title of the coal-tar product will benefit our*" (the pharmaceutical) "*profession.*"

In view of all the circumstances here related, the undersigned respectfully submit the following suggestion of a possible remedy for the correction of the creosote traffic:

To achieve or to attempt a reform of a long-established nomenclature, as here above suggested, may probably be justly assumed to be beyond the power or authority of individual persons or firms at present.

But, nevertheless, we feel deeply the responsibility laid upon every one who issues under a "creosote" label in this market anything but *true pharmacopœial creosote* "from wood-tar." And it is clear, furthermore, that—if emphatic caution labels distinctly warning against the dispensing, for internal administration, of anything but the true Beechwood creosote, are by competent authority declared powerless to "save the mark,"—then most certainly the mere addition, to the name "creosote," of *such meaningless epithets* as "Commercial," "German," etc., as are found in this market on current brands, is utterly vapid and ineffective!

Under such circumstances, we can satisfy our sense of duty in the matter in no better and more effective way than by *doing away entirely with the offending article*, that is, by withholding "coal-tar creosote" from sale in future, and declining to fill any further orders for any creosote but that from Beechwood!

To make such a move universally effective throughout our country, it should be made conjointly by all those who put up "creosote" for this market.

As there is, in a question of this kind, no potency anywhere equal and pertinent to the issue as is that of the American Pharmaceutical Association, we make free to lay this entire matter before you, with these requests:

That, firstly, it be taken under earnest consideration.

That, secondly, if such consideration prove favorable to the position above outlined, the Association pronounce, by resolution, in favor of confining the creosote traffic in this country to the creosote of the U. S. Pharmacopœia alone.

That, thirdly, to give effect to the resolution, a public request be addressed by the Association to all those who place "creosote" upon this market, to confine their dealings to the pharmacopœial genus thereof.

The undersigned firm, for one, herewith declare their cheerful readiness to do all that is within their power—even though it be at pecuniary loss to themselves—to avert a public danger thus clearly set forth as above cited.

They stand ready to cancel all their business in coal-tar creosote, and to continue the sale only of Beechwood creosote.

We would not have ventured to obtrude this matter upon your attention, Mr. President, but for the obvious fact that the very large and constantly growing modern use of creosote as an internal medicine in the important disease of tuberculosis makes it incumbent on all good people to avert, if feasible, the grave dangers that, under this circumstance, may be fitly considered as being involved in the possibility of the use of the wrong article.

As for the legitimate uses of the article thus proposed to be excluded from the market—they are so limited, and can so readily be supplied by other similarly constituted substances, that they ought not justly to be allowed to weigh against the large public benefit of the security to be gained by such exclusion. Respectfully submitted,
(Sig.) MERCK & CO.

Annexed to this paper were *specimens of the labels*, as affixed by its authors, to their "Creosote" packings, of both kinds, since the year 1894.

The "BEECHWOOD CREOSOTE" label bore the following warning:

CAUTION.—Wherever CREOSOTE is indicated for INTERNAL MEDICATION, this kind should be dispensed; and under no circumstances should so-called "Creosote" from Coal-Tar be given for Internal Use unless explicitly so directed. WOOD Creosote and "COAL-TAR Creosote" are two different substances. They do not consist of the same chemical ingredients; and they DIFFER VERY LARGELY in their action on the human body. Wood Creosote is comparatively harmless; while "Coal-Tar Creosote" is distinctly poisonous. A substitution of "Coal-Tar Creosote" for Wood Creosote may, therefore, cause the gravest consequences.

The label on "CREOSOTE FROM COAL TAR" bore this warning (in red ink):

REMINDER.—Wherever Creosote is indicated for INTERNAL medication, BEECHWOOD CREOSOTE should be dispensed, and under no circumstances should Creosote from Coal-Tar be given for internal use, unless explicitly so prescribed. Wood Creosote and Coal-Tar Creosote are two different substances. They do not consist of the same chemical ingredients; and they differ very largely in their action on the human body. Beechwood Creosote is comparatively harmless, while COAL-

TAR CREOSOTE IS DISTINCTLY POISONOUS, and substitution of Coal-Tar Creosote for Beechwood Creosote may therefore cause the gravest consequences.

This Bottle contains Creosote from COAL-TAR.

The discussion evoked in the American Pharmaceutical Association on the presentation of the above paper resulted in the adoption, by the Scientific Section, of the following resolution:

"Resolved, That in the opinion of the Scientific Section of the American Pharmaceutical Association the term 'creosote' should be restricted solely to true, wood-tar creosote, owing to the great danger arising from the present indiscriminate use of the term."

To give—and procure, if possible—due heed and sequence to the opinion of the National Pharmaceutical Body, thus directly and unequivocally declared, the authors of the Memorial further addressed a Circular Letter to those commercial firms and persons in the United States who are chiefly interested in the question herein at issue. In it, they again declare their own readiness to drop "*Coal-tar Creosote*" from their commerce altogether, while inviting practical co-operation with this aim, and also asking those addressed to utter their response to such invitation.

The co-operation thus sought has been obtained. The responses received from the drug trade were printed in *Merck's Report* for March, 1902. An overwhelming majority of them are heartily and enthusiastically *with* the proposition to banish the FALSE CREOSOTE from the market entirely. Many of them openly say they will do as the writers of the circular do: drop the coal-tar product from their stock outright, and refuse to fill future orders for it.

As to the *ultimate* purpose of the movement thus initiated—the abolishment of both intentional and neglectful CREOSOTE SUBSTITUTION throughout our country—there is *absolute unanimity* among the responses received.

The texts of the letters thus published are followed, in *Merck's Report*, by the announcement below repeated, which, if made the keynote of action throughout the American drug trade, will be the most effectual move yet made toward abolishing the evils of Creosote substitution:—

"New York, March 1, 1902.

"In accordance with their previously expressed decision, MERCK & CO. herewith announce that henceforth they will not carry or supply the article called 'CREOSOTE FROM COAL-TAR' under any name or designation whatsoever; and will not sell anything by the name of 'Creosote' except True Pharmacopœial BEECHWOOD CREOSOTE."

[Written for MERCK'S ARCHIVES]

SOME METHODS AND COMBINATIONS WHICH HAVE PROVED PARTICULARLY VALUABLE IN MY PERSONAL EXPERIENCE

By William J. Robinson, M.D., New York
Member of the American Medical Association; of the New York State Medical Association; of the New York County Medical Society; of the German Medical Society; of the Harlem Medical Association, etc.

IN submitting the subjoined cursory notes on every-day therapeutics, I do not wish to make any claims to originality. Some of the combinations may be original, then again they may not. It is a pretty hard matter, anyway, to decide what is original and what is not in medicinal therapeutics, except when the remedy is an entirely new product. Many combinations put out as original by recent graduates, in good faith, are found to have been used by older practitioners for a quarter or half a century back, though they might not have published the fact. In studying the history of medicine—the only part of medicine which may be termed really *interesting*—I have more than once been struck with the justice of Solomon's remark that there is nothing new under the sun. I find many methods and remedies, put forth as new, described or at least alluded to in books published seventy-five or a hundred and more years ago. There may be an improvement or greater nicety in the details, but the kernel was there many years ago. So much for originality.

As to the source of our therapeutics, I believe that we should be cosmopolitan in the true sense of the word. I have always liked to paraphrase Terence's noble saying: *Homo sum: humani nihil a me alienum puto*, into *Medicus sum: medicinalis nihil a me alienum puto*. Whether a remedy be recommended by layman, homeopath, eclectic, or regular, should not matter. If it in any way appeals to our common sense, we should give it an unbiased trial and only the results of experience should be the deciding factor in retaining or discarding it.

But if the subjoined combinations are not claimed to be original and are derived from multitudinous sources, they have one merit: they are all practical combinations, which are not only theoretically good, but have proved their serviceableness in actual experience.

Thrush (also called sprue or muguet).—This is a frequent affection in infants and children up to two years of age, especially those who are bottle-fed. The affection is due to the growth of the fungus *oidium albicans*, which develops best in an acid medium. The salivary secretion of a child

suffering with thrush is intensely acid. The best and never-failing combination I have found to be the following:

| | |
|---------------------------|-------|
| Sodium Sulphite..... | ℥ ii |
| Or, | |
| Sodium Hyposulphite..... | ℥ iss |
| Glycerin | ℥ vi |
| Peppermint Water, ad..... | ℥ ii |

Wrap a piece of absorbent cotton around finger, dip into the solution, and swab mouth and tongue thoroughly. To be repeated every half hour or every hour. If used at the beginning of the attack, the thrush generally disappears in twelve hours. The solution should be used freely. No harm can result if the child does swallow some of it. On the contrary, as the *oidium albicans* frequently extends its colonies into the esophagus and stomach, it will prove as useful there as in the mouth. The reason sodium sulphite and hyposulphite are so useful as antizymotics is to be found in the chemical combination and behavior of the salts. In an acid medium they liberate sulphurous acid gas or sulphur dioxide, SO₂, a powerful antiseptic, while sodium hyposulphite also deposits elementary sulphur in a finely subdivided condition. Physicians should be careful to spell out "sulphite," or, in Latin, "sulphis," and not abbreviate "sulph.," as the sulphate might be dispensed. A well-known text-book recommends sodium sulphate where sulphite is meant.

Should the physician see the patient late in the disease, when ulcers have formed, the above combination will not prove very efficient. Touching the ulceration with a 10-per-cent. solution of silver nitrate or a 2-per-cent. solution of copper sulphate may become necessary. In many cases of thrush the discharges are extremely acid; the parts about the anus become excoriated and cause the child further suffering. This condition should be treated internally by the administration of a mild alkali and bismuth subnitrate, as in the following combination:

| | |
|-------------------------|--------|
| Magnesie (Calcin.)..... | ℥ iii |
| Bismuthi Subnitr..... | ℥ i |
| Syr. Rhei Arom..... | ℥ iiii |
| Cord. Anisi..... | ℥ v |

Half to one teaspoonful three to five times a day.

Locally a drying powder should be frequently applied around the anal region. One having the following composition does good and prompt service:

| | |
|----------------------------|------|
| Zinci Oxidi, | |
| Bismuthi Subnitr., aa..... | ℥ ii |
| Lycopodii..... | ℥ iv |

Starch is not a good application, as it is apt to form lumps and thus prove irritating.

Dentition.—The question whether teething *per se* can cause fever, convulsions,

etc., seems to be still unsettled in the minds of some. I have not the least doubt that it can. The argument that dentition is a purely physiological function and therefore cannot cause pathological phenomena is a puerile one, and I have shown its untenableness in another place. When the gums are hot and tense, then frequent rubbing with the following combination will afford relief to the little sufferer and will frequently abort an eclamptic attack:

Potassii Bromidi.....grn. xx
Chloral Hydratis.....grn. x
Tr. Aconitii Rad.....℥ v to xv
Spir. Chloroformi.....℥ i
Mucilaginis Ulmi, ad.....℥ i

At the same time potassium bromide in 3 to 5-grain doses, and chloral hydrate in 1 to 2-grain doses, may or should be given internally or in double the doses per rectum. In the latter case starch-water should be the vehicle.

Erysipelas.—I fully agree with Prof. Hare and with the numerous other observers that the best external treatment for erysipelas is ichthyol, and I also agree with Ebersson that the drug is a specific in that disease. I do not use the word specific in its scientific sense—that is, I do not think that it has a specific affinity for the coccus erysipelatis. But it cures erysipelas whenever used, and is therefore for all practical purposes a specific. I have treated my first case with it; I have treated my last one, and all the cases between. Each case treated is simply an additional evidence of the remarkable power of the drug in that disease, and it seems to me a pure waste of time to look for other remedies or methods of treatment. I have had under treatment some very severe cases of facial erysipelas—where the face was one shapeless, unrecognizable mass, the lids so swollen that the eyes could not be opened, temperature 104 to 105° F., etc., and under twenty-four hours' ichthyol treatment the symptoms began markedly to abate, to be altogether gone at the end of three or four days. I do not recollect any case in which more than five days' treatment was requisite. If I should ever get negative results, I would be very much inclined to suspect that a spurious article had been dispensed instead of the genuine ichthyol. My mode of using the ichthyol is as follows: In cases which are very mild—judging by the exterior extent of the inflammation, the temperature, and the general constitutional symptoms—I order a 20 to 33-per-cent. ichthyol-woolfat ointment, to be applied every hour. But if the case is of any degree of severity I use the following method: Paint the entire inflamed area, and about an inch around and

beyond, with pure undiluted ichthyol. Above this gauze compresses soaked in a 10 to 20-per-cent. solution are to be applied every half hour or every hour. The solution is made as follows:

Ichthyoli.....i-℥ ii
Glycerini.....i
Aquæ, ad.....x

The glycerin prevents the too rapid drying of the solution and (to a certain degree only) the cracking of the skin. Of course the patient presents anything but an esthetic appearance, and the odor of the ichthyol is not exactly pleasant, but the disease is jugulated in a very short time, and that is after all the principal point. The skin subjected to the ichthyol treatment peels off but the new skin I have always found to be of a clearer and fresher tint. Antipyretics I have been obliged to use in exceptional instances only; never when treating the case from the very beginning of the disease. But I do give throughout the course of the disease a saline laxative, preferably magnesium sulphate in the following combination:

Magnesii Sulphatis.....℥ i
Ac. Sulphur Diluti.....℥ xxiv
Syrupi Limonis.....i
Aquæ Menth. Pip., ad.....iv

℥ss every two to four hours, according to indications.

This laxative keeps the intestinal canal clean, helps to remove "toxins" from the system and exerts an undoubtedly antipyretic effect. When the inflammation has been reduced and the skin begins to peel, an emollient ointment or powder (zinc-bismuth-cold cream, or zinc-starch-lycopodium) should be applied. During convalescence the administration of a tonic is advisable, and in this connection I have found the old simple tincture of ferric chloride—10 drops in Vichy water three times a day—the best.

Pruritus Scroti et Ani.—It is well known that itching in different parts of the body frequently requires different treatment. For this condition I have found nothing to answer so well as frequent painting with a 10 to 20-per-cent. solution of silver nitrate, or a strong, saturated solution of potassium permanganate.

Lumbago and Articular Rheumatism.—The first of these painful afflictions readily yields to a vigorous application of the following ointment:

Camphor-Chloralis.....℥ i
Ac. Salicylici.....℥ ss
Menthol.....gr. xx
Pulv. Capsici.....℥ i
Ol. Sinapis.....gtts. viii
Adipis Lanæ.....℥ iv
Petrolati, q. s. ad.....℥ ii

Apply with vigorous friction three times a day. (Sometimes I substitute Ol. Tigllii for Ol. Sinapis.)

I have not come across a single case of genuine lumbago, or rheumatic pains in the large muscles, which failed to yield to the above combination. Strange to say, in joint rheumatism it is not very effective. It sometimes even aggravates the pain. In the latter condition the following application is excellent:

| | |
|-------------------------|------|
| Menthol..... | 3 i |
| Ac. Salicylici..... | 3 ii |
| Methyl Salicylatis..... | 3 i |
| Alcohol, q. s. ad..... | 3 i |

Paint joints briskly with camel's-hair brush, cover with absorbent cotton and oiled silk, and bandage snugly, but not tightly.

So efficient has the above combination proved in my hands that in by far the great majority of cases of acute articular rheumatism I have been able to dispense with internal medicines altogether, or could get along with a few initial doses. Nor need this statement cause any surprise, because the salicylic acid and methyl salicylate are rapidly absorbed and their presence can be demonstrated in the urine. In this way we are enabled to saturate the system with salicylates without disturbing the gastric function. After a few applications, the epidermis begins to peel off and the surface becomes tender. When this occurs the application should be stopped for a day or two and an emollient ointment should take its place; one that answers well consists of finely powdered zinc oxide (prepared by the wet process) 1 dram; bismuth subnitrate, $\frac{1}{2}$ dram, and cold cream, 1 ounce. It should be added that the menthol-salicylate-alcohol application is useful in acute rheumatism only. In the subacute variety its efficiency is very slight, while in chronic rheumatism it is practically nil. In the latter two varieties the best results are obtained from a 33-per-cent. ichthyol ointment or a 20-per-cent. ichthyol-glycerin solution, aided by the persistent and long-continued internal administration of ichthyol and potassium iodide. But unfortunately no matter what treatment we may choose, some cases of chronic rheumatism will baffle the utmost efforts of the best men in our profession.

Pleuritic Pains.—In pleuritic pains, whether neuralgic or inflammatory, the following ointment is good:

| | |
|-------------------------|------|
| Camphor-Chloral..... | 3 i |
| Guaiaicol..... | 3 i |
| Menthol..... | 3 ss |
| Methyl Salicylatis..... | 3 i |
| Adipis Lanæ, ad..... | 3 i |

A small quantity to be rubbed in well and surface covered with cotton and oiled silk.

Guaiaicol acts differently on different individuals. Some persons can stand a very large quantity on their skin without show-

ing any untoward effects. In others as small a quantity as 10 minims may induce a considerable fall in temperature, and symptoms almost of collapse. And what is more remarkable, these very persons may be able to take large quantities of guaiacol internally without any toxic by-effects making their appearance. Is it because the guaiacol, when given dermically, reaches the circulation more rapidly and more suddenly than when given per os? Or is it on account of its effect on the cutaneous nerves? Or does the guaiacol when given by the stomach undergo some change before it reaches the circulation?

[Written for MERCK'S ARCHIVES]

A STUDY OF THE EFFECTS OF ALCOHOL UPON LONGEVITY

By J. M. French, M.D., Milford, Mass.

THE question as to the effect of the habitual use of alcohol upon the rate of mortality and duration of life, is one of the utmost importance. Fortunately, also, it is one upon which enough facts and statistics have been accumulated to justify the formation of definite conclusions.

As a matter of history, however, these conclusions were drawn from observation and experience, long before they were warranted by anything like the present formidable array of statistics. Christopher William Hufeland, in his classic work, "The Art of Prolonging Life," written in the 18th century, sums up the opinion of his day in these words: "Lastly, we may place in the class of things that tend in a particular manner to shorten life, all preparations of spirituous liquors, which under whatever name known, are in that respect highly prejudicial. When people drink them, they drink liquid fire. They accelerate vital consumption in a dreadful manner; and make life, in the properest sense, a process of burning." In the light of the most recent investigations of science, after making allowance for a certain extravagance of statement common to the age and subject, in what essential points does this statement need to be modified to-day?

The result of this "accelerated vital consumption" is shown in at least three ways: (1) In a class of diseases produced solely by alcohol, as alcoholic inebriety, dipsomania, delirium tremens, alcoholic insanity, alcoholic epilepsy, alcoholic neuritis; (2) In the increased prevalence of a large class of general and local diseases, of which alcohol is one of the important etiological factors; (3) In the lowered vitality, lessened endurance, and diminished reparative

power, which is produced by the habitual use of alcohol, and which results in an increased death-rate from all diseases.

A good illustration of the two last named modes of action is found in the "Twelfth Series of Medical and Surgical Reports of the Boston City Hospital," recently issued. In this volume, Drs. Sears and Larrabee give an analysis of 949 cases of pneumonia treated in that hospital between 1895 and 1900. Of this number, 714 were males and 235 females. The greater number of males is explained by the more frequent abuse of alcohol by the men, and also by the greater exposure to which they are subject in their occupations. The authors further state that the harmful effects of the abuse of alcohol are shown by the fact that of the total abstainers affected by the disease, only 25 per cent. died, while of the moderate drinkers the death-rate was 26.7 per cent., and of the hard drinkers 45.5 per cent. Our present investigation, however, does not concern itself chiefly with the forms of disease which are caused by alcohol, or the modes in which it produces death. The principal points to be considered are these: Does the habitual use of alcohol shorten life? And if so, to what extent, and how does the amount used affect the result?

For the purposes of our inquiry it is sufficient to divide the entire population into three classes: (1) Total abstainers, who use no alcoholic drinks otherwise than as a medicine; (2) Temperate drinkers, who never go beyond Anstie's limit of 2 ounces of alcohol daily; (3) Excessive drinkers, including all regular drinkers who go beyond Anstie's limit, as well as all occasional, periodical, and habitual drunkards.

Those persons whose occupations involve the constant handling of intoxicants, as in the case of individuals engaged in their manufacture or sale, are exposed to especial temptation to their intemperate use; and experience shows that these classes are subject to an abnormally high death-rate. Dr. Farr, the English registrar-general, in his report, speaks thus concerning them:

"The numerous, useful, and as a body, respectable men who supply the community with drinks, food, and entertainment at inns, are shown to suffer more from fatal diseases than the members of almost any other known class. They might themselves institute a strict inquiry into its causes. But there can be little doubt that the deaths will be found to be due to delirium tremens and the many other serious diseases induced or aggravated by excessive drinking. It seems to be well established that drinking small doses of alcoholic liquors, not only spirits, the most fatal of all the poisons, but wine and beer at frequent intervals, without food, is invariably prejudicial. When this is carried on from morning till late hours in the night, few stomachs—few brains—can stand it.

The habit of indulgence is a slow suicide. The many deaths of publicans appear to prove this. Other trades indulge in the publican's practice to some extent, and to that extent share the same fate. The dangerous trades are made doubly dangerous by excesses."

Dr. Baer, of Berlin, has made a special study of the mortality and longevity of persons who manufacture and handle beer and other forms of alcoholic liquors, and who are consequently largely exposed to temptation to their use. His study embraces 14,200 males, more than 13,000 of whom were over 25 years of age. He finds that the average expectation of life of persons who handle spirits, at the different ages from 25 years upwards, is on an average 4.27 years less than that of temperate persons of the same age.

According to the English census returns, while the average mortality of adult males was about 18.8 per 1,000, that of beer sellers was 20 per 1,000, of wine merchants 23.3 per 1,000, of licensed spirit retailers 23.9 per 1,000, and of inn and hotel keepers 23.8 per 1,000.

In Munich, the average lifetime of persons who pass the twentieth year in good health is 53 years, while the average lifetime of the proprietors of beer saloons is 51.95 years, and of brewers 42.23 years. That of the male proprietors of wine rooms is 49 years, and of the female proprietors of the same, but 47 years.

Among persons of other occupations, the total abstainers possess a similar advantage over the non-abstainers. In the British army in India, in 1849, the death-rate among total abstainers was 11.1 per 1,000; among temperate drinkers it was 23.1 per 1,000, and among intemperate drinkers it was 44.5 per 1,000. These figures are worthy of note, as indicating the relative power of endurance and vitality among the classes named, all of whom were selected with the greatest care as sound and healthy, and who presumably differed only in their habits in this respect.

The report of the English registrar-general quoted by Hamilton¹ in his work on "Nervous Diseases," shows the probable duration of life in persons who have lived temperately or intemperately and who have reached certain ages.

That table shows a loss of life from intemperance varying from 28.68 years at 20 years of age, to 5.34 years at 60 years of age, and averaging 15.85 years for all ages given.

It is, however, to the records of insurance companies and fraternal benefit societies that we must look for our most con-

¹ *Med. Examiner and Pract.*, July, 1901.

vincing statistics in this respect. These institutions are governed by strictly business principles, and not in any measure by sentiment. Hence their conclusions are universally accepted as reliable. As the result of long experience, there is now, so far as I am aware, no standard insurance company in the world which knowingly insures either habitual drunkards or excessive regular drinkers, while most also reject those persons who are engaged in the retail sale of liquors. Some go still farther than this, and while rejecting all habitual drunkards and intemperate drinkers, insure total abstainers and temperate drinkers in separate classes, requiring smaller premiums from the former class; while a few even restrict their membership entirely to total abstainers, finding the cost of insurance to be materially lessened thereby.

The United Kingdom Temperance and General Provident Institution is perhaps the best known of the second class above named. This is a society which for more than thirty years has insured lives in two sections, a general section and a temperance section. Even in the general section no habitual drunkards are taken, but only moderate drinkers, while in the temperance section only total abstainers are insured. Except in the matter of the use of alcoholic beverages, there is no material difference in the qualifications required for membership in the two sections.

The actuary of the society has given reports of both sections in periods of five years, for the entire time. A table constructed in accordance with the figures of this report for the thirty years ending with 1895 shows a percentage of actual to expected claims in general sections of 97.31, in the temperance section of 69.63, a percentage in favor of the temperance section of 27.68.

This table shows that there were less than three-fourths as many deaths in proportion in the temperance section as in the general section. Stated in another form: there was one death per year for every 152 moderate drinkers, and one for every 201 total abstainers.

The Scepter Life Association of England is another institution having a temperance and a general section. For the ten years from 1884 to 1893 inclusive, the expected deaths in the general section were 1,030, and the actual were 832, or 80.81 per cent. of the expected; while in the temperance section the expected deaths were 507 and the actual 294, or 57.69 per cent. of the expected, a difference of 23.12 per cent. in favor of the total abstainers.

In the Mutual Life Insurance Company of New York, according to the report of its actuary, covering a long period of years, and a large number of persons, the death-rate among those who were total abstainers when they were insured, was only 78 per cent. of the maximum, while among the non-abstainers it was 98.8 per cent.—again a difference of 18 per cent. in favor of total abstainers.

Dr. Edward H. Sieveking, in his book, "The Medical Adviser in Life Insurance," estimates that the average expectation of life of a man 20 years of age is, if temperate, 44.2 years; if intemperate, 15.6 years. He adds: "For the purposes of life insurance, the habitual spirit drinker ought to be declined altogether. There is scarcely a degenerative condition of the body that may not result from the abuse, or rather the habitual use of ardent spirits."

In 1880, a committee was appointed by the British Medical Association, known as the Collective Investigation Committee, one section of which was to report upon the Connection of Habits of Intemperance with Longevity. Their investigations included 4,234 deaths, the subjects of which were divided into five classes with reference to the use of intoxicants, as follows: (1) Total abstainers, (2) habitually temperate drinkers, (3) careless drinkers, (4) free drinkers, (5) habitual drunkards. They reported the following as the average ages of the different classes at death: Total abstainers—who numbered but 122, or less than 3 per cent. of the whole number—51 years and 22 days; habitually temperate drinkers, 63 years and 13 days; careless drinkers, 59 years and 67 days; free drinkers, 57 years and 59 days; habitual drunkards, 53 years and 3 days.

This report was at once seized upon by parties engaged in the liquor traffic, and made to appear to favor their business. In a circular issued by a Canadian liquor firm, entitled "Alcohol and Old Age—Truth vs. Fiction," the conclusion drawn is that "these figures show, singularly enough, that those who reach the shortest age are those who drink no alcohol whatever. After them come the drunkards, who only exceed them by a trifle."

Let us examine the facts for a moment, that we may understand what they really do teach. In the first place, among the four drinking classes the duration of life was found to be in inverse proportion to the amount of liquor drunk, and hence the inference thus far is in the same direction as the majority of the facts examined. As for the class of total abstainers, the number is

too small to permit of drawing very reliable conclusions. It is also a well understood fact that the total abstinence movement in England is of comparatively recent growth, and also that it drew its adherents from the young, rather than from the middle-aged or the old.

It therefore must necessarily follow that the average age of living total abstainers is considerably less than that of the drinking classes, and that the average age of those who died in any given period would be less than would be the case with an older class of people. Dr. S. W. Abbott, secretary of the Massachusetts Board of Health, in a letter to the *Boston Transcript*, puts the matter very clearly when he says that the fact that the average age of persons dying in an orphan asylum is less than that in an old ladies' home, proves nothing as to the comparative healthfulness of the two institutions, since the one is made up of young persons, the other of old. Dr. Owen, chairman of the committee, himself made this statement concerning the matter at the Congress of Hygiene held in the year 1891:

"A certain table of figures contained in the report had attracted the eye of newspaper paragraphists and had been quoted and requoted apart from its context in such a manner as to lead the public to believe that, in the view of the author of the report, the longevity of abstainers fell below the longevity, not only of moderate drinkers, but even of the decidedly intemperate.

"No such conclusion was contained in the report, no such conclusion was deducible from the figures in question, and this was plainly stated in the text of the report.

"The conclusions of the report, as far as concerned the health of the public, were the following:

"1. That habitual indulgence in alcoholic liquors beyond the most moderate amounts has a distinct tendency to shorten life, the average shortening being roughly proportioned to the degree of indulgence.

"2. That, of men who have passed the age of twenty-five, the strictly temperate, on the average, live at least ten years longer than those who become decidedly intemperate. We have not in these returns the means of coming to any conclusion as to the relative duration of life of total abstainers, and habitual temperate drinkers of alcoholic liquors."

This frank statement ought to settle the meaning of the report.

In view of all the facts given, the following conclusions seem warranted:

1. The habitual use of alcohol shortens life.

2. Speaking broadly, the degree of shortening is proportioned to the amount used, and to the duration of its use.

3. From the point of view of longevity, the abstainer is not simply the one who does not at the present time use alcoholic

drinks, but rather the one who has never used them. The reformed drunkard may be a total abstainer, but he cannot on that account be considered a good risk.

[Translated and Condensed for MERCK'S ARCHIVES]

CONVULSIONS IN CHILDREN

By J. H. Spiegelberg, M.D.

THE simplest classification of the various manifestations of infantile eclampsia is the one which distinguishes sympathetic and functional convulsions, the former being caused by a tangible pathological lesion, the latter arising independently of any organic alteration. It may be well remembered, however, that such "idiopathic" eclamptic seizures are possibly often the result of a lesion which we are at present unable to detect.

Conditions peculiar to childhood predispose to convulsions. In the new-born the motor nerves scarcely show any irritability, and that of the sensory nerves is also below the later normal status. But the irritability of both increases steadily after birth and soon becomes greater than in the adult. Moreover, in the infant all inhibitory centers and tracts are as yet undeveloped and the brain is powerless over all the reflexes. Add to this condition of the nervous apparatus the inevitable digestive derangements of infancy, the intoxications, exhaustion, etc., and the frequency of convulsions in childhood is accounted for.

Over and above these physiological causes of the disorder there is often a hereditary disposition in the form of nervous weakness, syphilis, etc. With advancing age, the child overcomes these predisposing factors wholly or in part, and, accordingly, we see convulsions less frequently in older children.

The variety of eclampsia usually met with in early childhood is the functional. The attack often sets in suddenly without any premonitory symptoms, with muscular contractions, almost always beginning in the face. The forehead is wrinkled, the eyes fixed in a stare, the corners of the mouth drawn in a peculiar grin. Consciousness is lost for a short time. This constitutes the mild form of infantile eclampsia. Severe attacks may begin with spasms of the glottis, the teeth gnashing, the tongue bitten, the extremities convulsed. The arms are pressed to the chest, the thumbs drawn into the hollow of the hand under the fingers, the spinal muscles bring about an opisthotonos, the head is thrown about. The contractions of the respiratory muscles interfere with the breathing, which becomes ir-

regular and interrupted as soon as the diaphragm participates in the contractions. Rattling may now be audible, the child foams at the mouth, cyanosis supervenes, feces and urine are passed involuntarily, the latter often containing albumen. The pulse is small, the fontanelle tense, consciousness absent. Gradually, these phenomena subside, and after a varying length of time consciousness returns and the child falls into a restful sleep. Death may supervene during the seizure, due to cardiac paralysis or to asphyxia.

Numerous and varied are the causes precipitating such attacks. There is the vasomotor disturbance of the central nervous system, as we find it in diseases of the heart and lungs; there is acute nephritis, uremia, laryngeal stenoses, rickety deformities of the thorax, which all lead to a hematogenic intoxication (with carbonic-acid gas, metabolic products, etc.); there is the auto-intoxication from the alimentary canal, favored by the digestive disorders of early life; there are chemical poisons imbibed with the maternal milk, as alcohol, opium, and others; there are the peripheral irritations of worms, foreign bodies, cutting teeth, phimosis, uric-acid diathesis, etc.

No general prognosis of infantile eclampsia can be given. All depends on the individual circumstances. Death may terminate the attack as mentioned above; fractures (in the rachitic), paralysis, wounds, hemorrhages into the skin and mucous membranes, may all be the sequelæ of the seizure. Frequent recurrences seem to create a permanent disposition to nervous affections.

Closely allied to functional eclampsia are the tetanoid conditions, tetany and laryngismus stridulus. In tetany the contractions are tonic, but this is merely a quantitative difference. The affection is a motor reflex-neurosis, independent of any anatomical basis, and falsely considered by some to be a manifestation of rickets. Tetany is simply the outcome of a higher degree of the same reflex irritability which we have found to underlie infantile eclampsia.

The clinical picture of tetany is composed of tonic contractions affecting chiefly the flexor muscles and not involving loss of consciousness. It is seen in poorly developed, ill-nourished infants between the second and fourteenth month, seldom later. In the attack, which lasts a long time with intermissions, the arms are flexed and drawn to the body, the hand is also flexed, the fingers extended, the lower extremities similarly convulsed.

The contractions are painful. Three

prominent symptoms constitute the classical "triad" of tetany: (1) Erb's phenomenon—increased galvanic irritability, (2) Chvostek's facial symptoms—muscular contractions in the face on percussing the facial nerve, (3) Trousseau's symptom—appearance of the seizure on pressing the nerves and chief arteries of the arm.

Another variety of convulsive seizure in childhood is the well-known spasm of the glottis, "laryngismus stridulus"—depending on the same conditions as the other manifestations of eclampsia infantum.

Notwithstanding its specific cause, the author considers *tetanus neonatorum* as belonging to the same group as the types above mentioned. Furthermore, he enumerates spastic wry-neck, nutatory spasm, nystagmus, blepharospasm, facial "tics," and similar affections as belonging to functional convulsions, which also include the so-called periodical night-cough, whooping-cough (?), hiccough and the contractions due to exhaustion, as "leg-cramps," etc.

Etiologically opposed to these functional convulsions are those which accompany tangible lesions of the nervous system, "symptomatic convulsions." We meet with this variety in the diseases of the brain, spinal cord, or the meninges, leading to irritation of the motor centers without causing paralysis. Often the contractions are localized, limited to certain groups of muscles, and this peculiarity is the only difference from the clinical picture of "functional" eclampsia.

Finally, there is a class of convulsions designated as "psychomotor neuroses" including epilepsy, hysteria, minor chorea, and athetosis.

Epileptic seizures in childhood usually run a milder course than in later years, but the prognosis is none the less bad as to cure. The typical attack of epilepsy is in no wise different from the eclamptic seizure. Epileptoid attacks and the epileptic "equivalents" are also known to occur in children. The mental development of these victims is generally retarded and below par.

Hysterical manifestations are met with in childhood, boys and girls being equally affected. Of the different convulsive varieties of this disease, may be mentioned the electric chorea, catalepsy, myoclonic seizure, etc. Chorea is a disease of childhood between the fifth and twelfth years. The underlying conditions are as yet not well understood, but the frequent coincidence of chorea with rheumatism and endocarditis deserves attention. It may be that the disease in question is a form of infection. Somewhat similar to chorea is athetosis,

which is hereditary or due to cerebral disease.

The treatment of convulsions is at first chiefly symptomatic. After the attack is over, general or etiological measures are to be considered. There is no time and often no means of making a diagnosis of the underlying condition during the seizure and the physician must be satisfied with measures intended to check the attack or obviate its dangers. The first thing to do is to relieve the child of its clothing and warm or oppressive covering. The head should be elevated, fresh air admitted, and all unnecessary attendants ordered out. Then hydropathic measures should be inaugurated, such as a cool pack of the body, wet cloths or an ice-bag to the head, or a warm bath with cool affusions. External irritants are also appropriate; friction of the body with brandy, the addition of mustard to the bath, etc. Enemata are often useful. Should the seizure still continue after five to ten minutes, narcotics are indicated; opiates are to be shunned in smaller children. A few whiffs of chloroform will suffice to anesthetize the child for some time, or a dose of chloral hydrate may be given by mouth or per rectum. In cases of laryngismus stridulus and tetanic attacks, artificial respiration should be the method of choice from the start.

After having mastered the seizure, general and etiological features are to be considered. Disorders like dyspepsia, anemia, rickets, malnutrition, etc., should receive attention. Worms are to be removed, intestinal auto-intoxication relieved by copious irrigations, inflamed gums scarified, high temperature reduced. If a distinct disease can be recognized, appropriate treatment is of course to be instituted. Cases of hydrocephalus, cerebral tumors, etc., can often be benefited by lumbar puncture, thus relieving the intracranial and intraspinal pressure. Surgical treatment is called for in certain cases of epilepsy and tumors.

The nervous disposition so frequently encountered is to be combated by means of hygienic, dietetic, and medicinal treatment. The bromides are widely employed as sedatives. Large doses are indicated in epilepsy (up to 32 to 48 grn. daily). Flechsig's method of preparatory opium treatment of epilepsy is not permissible in childhood. Zinc valerianate is another efficient antispasmodic and may be given in doses of $\frac{1}{4}$ grn. in all varieties of eclampsia. Chloral hydrate may also be continued after the attack is over, in spoonful doses of a 1 to 2-per-cent. solution. As a nerve tonic, phosphorus deserves special mention and is

indicated in rickety conditions, tetany, laryngospasmus, etc. It is best given in cod-liver oil, $\frac{1}{6}$ grn. to $3\frac{1}{2}$ oz. oil, 1 to 2 teaspoonfuls daily.

In tetanus neonatorum large doses of potassium bromide (32 to 48 grn. daily), of chloral (16 to 32 grn. daily), of tincture of musk (1 drop every three hours), all of them given by enema, and minute doses of atropine hypodermically, as well as chloroform by inhalation—are the usual remedial agents. Besides these, hot baths or warm packs are sometimes useful. Iron and general tonics are indicated in most of the nervous disorders of childhood. As a matter of prophylaxis all injuries, irritations, exhaustion, dietetic errors, etc., are to be avoided. Epileptic mothers should not nurse their babies. Finally, proper bringing up and educational influences are not to be underestimated.

As to chorea minor, the treatment is general—aiming at improved nutrition, combating the anemia, etc.—and specific, consisting in the administration of arsenic in the form of Fowler's solution, half diluted with cinnamon water, beginning with 3 to 5 drops twice daily and gradually increasing to 10 to 20 drops at a dose, then decreasing as gradually. Antipyrine, recommended by some authorities, is hardly advisable.

THE MEDICINAL TREATMENT OF NEURASTHENIA¹

By D. R. Brower, M.D.

THE author says that he is not a therapeutic skeptic and he therefore gives his neurasthenic patients drugs freely, and with benefit. It is an autotoxic and exhaustion neurosis, and therefore requires, first, eliminants. The bowels, kidneys and skin are usually all below the standard of healthy activity, and the careful physician will not depend upon the statement of the patient for the state of this activity, but will investigate fully each of these emunctories for himself.

A prescription to promote the bowel-elimination is:

| | |
|-----------------------------|----------|
| Ext. Aloes..... | gr. viii |
| Ext. Taraxaci..... | gr. xvi |
| Pulv. Ipecacuanhæ..... | gr. i |
| Ext. Hyoscyami..... | gr. viii |
| M. ft. in capsul. No. viii. | |
| One at bedtime. | |

This pill is a stomachic tonic, a mild diuretic, as well as a gentle laxative. The dose of this should be regulated so as to produce one soft stool daily. The bowels should be washed out once or twice a week

¹ *Internat. Med. Mag.*, XI, No. 2.

with a high enema of normal saline solution.

To promote renal elimination, potassium citrate in doses of 5 to 15 grn. before meals, combined with adonis vernalis, is efficient:

Potassii Citratis..... 3 v
Ext. Adonis Vernalis Fl..... 3 ss
Aque Aurantii, ad..... 5 iv

One teaspoonful before meals in hot water.

Improved elimination through the skin is best promoted by massage and static electricity.

It is essential to establish as thorough an elimination as possible by bringing these several important systems up to the standard of health, before resorting to tonics. This is frequently overlooked.

The exhaustion side of neurasthenia is to be combated by the combination of alteratives and tonics. The alteratives preferred by the author are gold and guaiac, and a favorite formula is:

Auri et Sodii Chloridi..... gr. i
Pulv. Res. Guaiaci..... gr. c

M. ft. in cap. No. xx.

One a half hour before meals.

These drugs should be rubbed together dry and put in capsules.

The blood should be examined in every case, especially to determine the percentage of hemoglobin, and iron given or withheld, as may be indicated by this. The best preparation of iron is Blaud's mass, freshly prepared, and rubbed up dry, and with this may be combined nux vomica and arsenic in small doses as follows:

Ferri Sulphatis (Exsic).....gr. xl
Sodii Carbonat. (Exsic).....gr. xl
Ext. Nucis Vomicae.....gr. iii
Sodii Arsenatis.....gr. i

M. ft. in cap. No. xx.

One after meals.

Objection has been made by some to the use of nux vomica and its alkaloids in neurasthenia; it does do harm in large doses, and in those cases in which elimination has not been sufficiently established. When the hemoglobin record has improved so that iron is no longer necessary, phosphorus will be of service. This may be given as the zinc phosphide, $\frac{1}{10}$ grn., or as calcium glycerophosphate, 5 grn., or as syrup of hypophosphites U.S.P., 1 dr., after meals. Of these several drugs the author prefers the calcium glycerophosphate.

Nerve sedatives will be necessary from time to time, and for this purpose sodium bromide is useful:

Sodii Bromidi..... 3 vi
Essen. Pepsini, ad..... 5 iii

One teaspoonful in water as necessary.

To this may be added sometimes with advantage codeine phosphate in small doses. Those nerve sedatives should be

used only occasionally, and for the temporary effect, because it is easy to lead these patients into a drug habit.

Insomnia, which is a prominent symptom in some cases, should be combated without drugs, if possible, but if not, then the combination of chloral and sodium bromide is much superior to any of the newer preparations.

Chloral Hydrat..... 3 iv
Sodii Bromidi..... 3 iv
Ext. Glycyrrhizæ Fl..... 5 ii
Aque, ad..... 5 ii

One teaspoonful in water at bedtime. Repeat in one hour, if necessary.

While this general plan should be continued, yet the particular drugs to be employed may be frequently changed with benefit to the patient.

TREATMENT OF ANGINA PECTORIS¹

By Beverley Robinson, M.D.

TRUE angina pectoris is granted to be a disease of very rare occurrence. On the other hand, pseudo-angina and cardiac asthma are not at all seldom met with. Almost without exception, organic changes of the heart-muscle or of the aortic orifices accompany genuine angina, while the false form is as often of neurotic origin.

The pain of true angina is very characteristic, being marked by its great intensity and a feeling of imminent dissolution. The sufferer suddenly assumes a rigid, fixed attitude, fearful of moving, agonized by a sensation of impending death. He scarcely dares to breathe, unlike the victim of cardiac asthma, who makes frantic efforts to satisfy his air-hunger. The pain of angina is perfectly distinctive, unlike any other kind. Its location over the precordial region is by no means a constant feature, and it often radiates towards the arms and hands, or even seems to originate in the wrist, in exceptional cases.

Frequently an attack of angina is brought to a close by a sudden explosion of gas from the stomach, hence the belief in flatulent dyspepsia as the immediate cause of anginal seizures. The duration of an attack varies from several seconds to as many minutes, seldom longer. Occasionally abortive seizures are encountered. Among the causes which precipitate the attack, exertion is a notable one. A brisk, hurried walk, or some fatiguing effort may bring on the disorder. Flatulence, dyspepsia, a loaded rectum are other potent exciting factors, as is also the influence of cold. Therefore, the sufferer should keep his body

¹ Amer. Jour. Med. Sciences, CXXIII, No. 2.

warmly clad, taking especial care to have warm feet.

Bearing in mind the frequency of digestive disturbances as precursors of anginal seizures, the patient ought to avoid late meals, too abundant dinners, highly seasoned foods, sauces, condiments, etc. A life conforming to the simple rules of hygiene is the best prophylactic.

When the disorder can be traced to some other disease, causal treatment is indicated. Otherwise, it is empirical and symptomatic. The bitter tonics, hops, calumba, chiretta, etc., are often appropriate. When aortic disease is present, arsenic, potassium iodide, and nux vomica may be useful if the arterial tension is not too high. In many instances the sodium iodide is preferable to the potassium, since it affects the heart less strongly. For both, milk is the best vehicle.

The nitrites are best not used between the attacks. When a seizure has supervened, amyl nitrite and nitroglycerin are very efficient in relieving pain by dilating the peripheral arteries. The former is more prompt, the latter more lasting in action. Both are safe drugs, as is also the sweet spirit of niter, while sodium nitrite may produce alarming symptoms.

However, the nitrites are not indifferent remedies, and the patient should be duly warned of the consequences of abuse. It seems as if their injudicious employment sometimes shortens life. The iodides are better suited for prolonged administration.

Cases are encountered, however, which refuse to be relieved by either nitroglycerin or amyl nitrite. A mustard leaf or a hot-water bag may then be applied over the heart, but if they fail, morphine must be given hypodermically. In some instances, inhalations of chloroform are the only hope of relief, but they are a dangerous resource.

For marked cardiac failure, a hypodermic injection of ether or brandy ($\frac{1}{2}$ to 1 dr.) may be administered. Inhalations of oxygen are also valuable in this emergency. After the acute seizure is over, rest in bed is desirable for some time.

Physical therapy, as the Oertel system, may be useful, but should be employed with great caution and discrimination.

QUININE AND ITS ESTERS¹

By M. Overlach, M.D.

THE attempts to find a substitute for quinine have for a time resulted in a sort of reaction against the former universal employment of the drug. It seems, however,

that the specific is again asserting itself in spite of the numerous products intended to replace it, and this rehabilitation of quinine is due chiefly to the newer investigations in the field of malarial infection, and to the latest chemical researches which have resulted in the production of derivatives that obviate the undesirable by-effects of quinine.

Euquinine, which is quinine-carbonic-ester, has been quite successful in this direction. There are other derivatives, possessing varying qualities. Some of them, as acetylquinine, are rendered unfit for use by their taste; others, like benzoylquinine, phosphorylquinine, are less bitter but too mild in action, and finally some are absolutely tasteless but also entirely inert.

There is, however, another quinine-ester well worthy of consideration as a succedaneum to quinine. This is saloquinine, a quinine ester of salicylic acid, insoluble in water, easily soluble in alcohol and ether, melting at 138° C. This ester is not to be confounded with the salicylate of quinine. In its chemical and therapeutic properties the new derivative is a mild quinine. It is of specific value in typhoid fever and serves as an antipyretic in acute diseases. It possesses germicidal powers, checking the growth of micro-organisms, and like quinine it stimulates blood formation. The chief merit of saloquinine lies in its analgesic and curative effects in neuroses and neuralgias.

Saloquinine, according to the author, has the following advantages over quinine: It is tasteless, it causes no cinchonism, does not disturb the nervous system, and does not affect the digestive and urinary organs. Its effects are mild and the doses must be about twice that of ordinary quinine.

Among other diseases, saloquinine has been found valuable in sciatica. The author prescribes not less than $\frac{1}{2}$ dr. once or twice daily, according to the indications. In sciatica these 30-grn. doses are best given in the evening. If the pains do not diminish, a second dose is ordered sometime later and will prove efficient.

In typhoid fever, 30 grn. of saloquinine are best given in the evening before the bath. The drug thus develops its action when the effects of the bath are beginning to disappear. The influence on the general condition and on the course of the disease is very favorable. The temperature curve runs a milder course and the characteristic apathy is partly dispelled.

Saloquinine is thus a most useful compound. Moreover, the drug forms two

¹ *Centralbl. f. innere. Med.*, 1901, No. 33a.

groups of salts, acid and neutral ones. The acid salts are useless on account of their bad taste. The neutral salts, on the other hand, are tasteless and non-irritant, and thus offer the possibility of proportional combination in one substance of the quinine and acid action. Of these neutral salts the salicylate has been named *rheumatin* on account of its special anti-rheumatic properties.

Rheumatin, then, is the salicylate of saloquinine, and forms white needles sparingly soluble in water and perfectly tasteless. Its antirheumatic action is very pronounced and cannot be attributed solely to the salicylic acid; neither is the drug a mere mixture of salicylic acid and quinine, since these two given together do not produce similar results. It is evidently a peculiar chemical body possessing its own action.

The effects obtained in acute articular rheumatism, and particularly in the cardiac complications, have been highly encouraging. The author emphasizes the prompt relief of the pains in cases with a complicating pericarditis. The drug deserves the first place among all salicylates for its antirheumatic value, being superior even to aspirin.

The author recommends the following doses: 45 grn. daily in three doses for three days, then a pause on the fourth day, and 60 grn. daily for the next four days, with a new pause on the fifth day. No digestive disturbances follow.

Rheumatin must also prove a valuable adjunct in the treatment of neuralgias, neuritis, lancinating pains of tabes, muscular pains, etc.

Dr. Franz Tauszk² has experimented with saloquinine in cases of supraorbital neuralgia, influenza, the pains of locomotor ataxia, muscular rheumatism, acute articular rheumatism, follicular tonsillitis, and typhoid fever. He has found it to be an efficient antineuralgic remedy, with less marked antipyretic qualities.

The drug was well borne. Only in one case nausea supervened. In single doses of 8 to 16 grn. up to 50 grn. daily, no tinnitus, vertigo, etc., were complained of. The new compound combines the properties of quinine and the salicylates, its analgesic action being especially pronounced. It relieved the lancinating pains of tabes, and the pain of neuralgias and rheumatism. The same pain-relieving effects were obtained in influenza. It seemed to cut short attacks of tonsillitis. In pulmonary tuberculosis a dose of saloquinine retarded the onset of fever,

but could not prevent it altogether. In typhoid fever the antipyretic effects were insignificant.

As to the mode of administration, the author found larger quantities given at short intervals to be the best. Thus, 16 grn. every hour for three doses gave the best effects in the grippe. Mild sweating could be observed in these cases.

Further trial of saloquinine is recommended in all affections indicating the use of quinine or the salicylates. The antineuralgic effects of saloquinine, however, are much more pronounced than its antifebrile action.

HYDROGEN PEROXIDE IN TUBERCULOSIS

Dr. Luton¹ advocates the treatment of ulcerative phthisis, when cavities are present, with hydrogen dioxide. He has for years successfully employed the remedy in the cold abscesses of tuberculosis, injecting a combination of 1 part of peroxide and 3 parts of a 10-per-cent. solution of sodium phosphate into the abscess cavity, to the extent of 1 dr. once or twice weekly.

Considering pulmonary cavities as analogous to the cold abscesses, the author began to experiment with the hydrogen peroxide in their treatment, using a mixture of 100 parts peroxide and 50 parts of a 20-per-cent. solution of sodium phosphate. The combination is inhaled from an atomizer once or twice daily. The inhalations should be deep.

The action of this method is antiseptic and it is adapted only to the later, ulcerative stages of phthisis. The results obtained were excellent and encourage the adoption of the new method.

A MIXTURE FOR CHRONIC RHEUMATISM

Dr. P. C. Layne² states that after many failures with the ordinarily prescribed remedies, he devised a combination which he considers as much a specific for chronic rheumatism and its congeners, neuralgia, sciatica, etc., as quinine is for malaria or mercury for syphilis. The formula follows:

| | |
|-------------------------------|----------|
| Ext. Xanthoxyli Fl..... | 3 i-3 ii |
| Ext. Asclepiadis Fl., | |
| Ext. Dulcamaræ Fl., aa..... | 3 ss-3 i |
| Ext. Taraxaci Fl..... | 3 ii |
| Spir. Frumenti, q. s. ad..... | 3 viii |

Tablespoonful three times a day after meals.

The mixture will, of course, not cure ankylosed joints, contractures, etc., but in incipient though well-marked cases, where the patient complains of stiff joints, lumbago, and distressing pains, the author has not a single failure to record.

² *Klin.-therap. Woch.*, 1902, No. 1.

¹ *Russky Vrach*, 1902, No. 9.

² *Cincin. Lancet-Clinic*, XLVIII, No. 3.

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HYDROGEN PEROXIDE IN PNEUMONIA

Dr. M. Beshoar¹, who has been in active practice for forty-eight years, says that very early in his career he learned to look upon pneumonia as a specific disease for which he believed a specific treatment would soon be discovered; that practically no progress has been made in this direction he considers a stigma on scientific medicine. He states further that though in the Rocky Mountains, where he is practicing, the mortality from pneumonia has been much greater than in low altitudes, still he has lost no patient from that disease during the past few years, and his treatment has been hydrogen peroxide, with strychnine and Dover's powder as adjuvants. He mixes the peroxide with two volumes of water, and of this he gives teaspoonful doses, adhering to the following program: Every five minutes for the first 3 doses; every ten minutes for 3 doses; every fifteen minutes for 3 doses, then every twenty minutes for 3 doses; after that a teaspoonful every half hour, during sleeping as well as waking hours. Under this treatment he expects convalescence in from eighteen to forty-eight hours. It may be objected that the peroxide will expend itself in the secretions of the stomach. No doubt it will, so long as there is morbid material to be oxidized; but when oxidation is completed the author believes that the peroxide is absorbed and taken into the circulation as such, and goes partly to oxidize the venous blood and partly to act as a bactericide. The only inconvenience caused by this free use of the peroxide is a sense of fullness of the stomach, patients frequently declaring that their stomachs are so full that there is no room for more. With a little persuasion, however, they can be induced to continue the treatment as long as deemed necessary.

CARBOLIC ACID IN TETANUS

To judge by the reports which are frequent of late, carbolic acid seems to be a potent remedy in tetanus. Dr. Enriquez and Dr. Bauer² have treated a woman suffering from severe tetanus with injections of the acid, after chloral hydrate and antitetanic serum failed to do any good. After abstracting 5 to 6 oz. of blood from the patient, an injection was made consisting of 6 oz. of artificial serum to which 45 min. of a 2-per-cent. solution of carbolic acid had

been added. At the end of two days the contractures subsided, and the bleeding was discontinued, only the acid being injected daily. Complete recovery resulted.

A case of recovery from tetanus under treatment with carbolic acid is reported by Dr. K. E. Kellog.³ A girl of thirteen had lacerated her hand on a barbed-wire fence and developed symptoms of tetanus seven days later. The wound, which had closed in the meantime, was now opened and thoroughly injected with hydrogen peroxide. Laxatives and bromides were administered, but the chief feature of treatment was the use of carbolic acid hypodermically. A 1-per-cent. aqueous solution was injected around the wound, in all 30 min. having been used for the several injections at the first sitting. The next day, the symptoms becoming more intense, the injections were repeated every three hours, 30 min. being given at a time. Improvement now took place, and the injections were reduced in number and frequency, but had to be kept up at intervals for about three weeks, when recovery was established.

YEAST IN THE TREATMENT OF SMALLPOX

The favorable results obtained from yeast in furunculosis suggested to Dr. S. Petri² the employment of the same substance in smallpox. Two patients, about forty years of age, who had not been vaccinated since childhood and who were attacked with a very confluent form of variola, were treated with fresh beer-yeast, in teaspoonful doses, five to six times a day. No other treatment was employed. The pustules dried up rapidly, without the formation of any pitting and there was no further fever or suppuration. Basing himself on these two cases, the writer suggests the employment of yeast not only as a curative agent, but also as an abortive. He believes the disease might be aborted if the yeast were administered at the first appearance of any symptoms.

ALCOHOL IN CARBOLIC-ACID POISONING

Dr. A. C. McDonald³ was hurriedly called to see a young girl who had swallowed over an ounce of carbolic acid, with suicidal intent. He arrived about twenty-five minutes after the occurrence, and found the patient in deep coma, apparently approaching collapse. He administered half a pint of alcohol through a stomach-tube, and gave $\frac{1}{20}$

¹ *Southern Pract.*, XXIV, No. 3.

² *Rev. de Thérap.*, LXIX, No. 3.

³ *Med. News*, LXXX, No. 9.

² *La Sem. méd.*, 1902, No. 8.

³ *Fort Wayne Med. Jour.*, Feb., 1902.

grn. of strychnine hypodermically. The alcohol was then pumped out of the stomach and the same operation repeated twice in succession. This was followed by repeated washings with warm water, after which he poured in 4 oz. of whiskey, which he allowed to remain. The pulse was slightly perceptible, but patient seemed in *extremis*. Respiration was labored and stertorous, extremities cold. Nitroglycerin, strychnine, and brandy were given alternately for several hours, and at last patient became somewhat conscious and sensitive to pain. On the following day the patient seemed perfectly well, with the exception of a severe pharyngitis.

DIONIN IN RESPIRATORY DISEASES

Dr. August Scherer¹ experimented with dionin in diseases of the respiratory organs, notably in pulmonary tuberculosis. The harassing cough, the pains, the resulting insomnia of this disease often call urgently for a narcotic. Dionin, being free from injurious by-effects and possessing a prompt action, is eminently adapted to the occasion.

The author employed dionin in twenty-two cases of severe and advanced pulmonary consumption. The chief action of the drug, as evidenced by these experiments, is sedative, allaying irritation. This virtue makes it especially valuable in the incessant cough of phthisis, with its dangerous sequelæ, as hemoptysis. The expectoration remained unhampered by dionin, contrary to the action of morphine, which checks the bronchial secretion and makes its expulsion difficult.

Pain was favorably influenced by dionin.

Insomnia was also most efficiently controlled by the drug in doses of $\frac{1}{3}$ to $\frac{1}{2}$ grn. at bedtime. On waking next morning, none of the tormenting after-effects of morphine were complained of. The sleep of dionin seemed to be more peaceful and lasting than that of morphine.

No trial was made with dionin in hemoptysis, morphine having been used, since the cases were so severe that tentative medication was hardly justifiable. In milder grades, however, the author advises its trial.

As mentioned before, no undesirable collateral effects, as headache, nausea, vomiting, constipation, etc., were recorded. It would also seem, from the author's series of cases, that habituation does not readily take place.

Compared with morphine and codeine, dionin is milder and more harmless than

the former, and stronger in action as well as more lasting in its effects than the latter.

As to dosage, $\frac{1}{3}$ to $\frac{1}{2}$ grn. is a sufficiently large quantity in most cases. The remedy may be given in powders or in solution. Tablets containing $\frac{1}{4}$ grn. of dionin are also on the market.

THE EFFECT OF ALCOHOL ON THE ACTIVITY OF PEPSIN

E. Thibault¹ has studied the influence of alcohol on pepsin under different conditions. He finds that if the alcoholic strength of the medium is below 12.5 per cent., the pepsin shows no immediate loss of digestive power; but above this strength the proteolytic power is at once diminished. At the end of about four months the power of the pepsin solution is almost completely destroyed, even if the alcoholic strength be considerably below 12.5 per cent. Elixirs and wine of pepsin are therefore ineligible, as the pepsin deteriorates to a greater or less degree according to the age of the preparation. [On the other hand, it has been shown that such test-tube experiments are not conclusive. It is believed by some physiologists that in the stomach alcohol has no permanent inhibitory action on the pepsin, because the alcohol is rapidly absorbed, thus leaving a free field to the pepsin.—ED.]

LENIGALLOL AND EUGALLOL

These compounds, derivatives of pyrogalllic acid, have found extensive application in dermatology. They possess the therapeutic virtues of pyrogalllic acid without its drawbacks, such as discoloration of the skin, inflammatory reaction, and occasional albuminuria. Dr. Franz Poor has tried lenigallol in 25 cases of eczema and in 14 cases of artificial dermatitis. The remedy was applied in ointment form of 5- to 15-per-cent. strength, and the effects were satisfactory in cases of eczema rubrum, eczema vesiculosopapulosum, and in acute weeping eczema. In dry desquamating eczema the results were not encouraging when compared with the efficiency of tar-preparations in this variety. Neither was the drug of any value in psoriasis. Two cases of pityriasis rosea, on the other hand, readily yielded to lenigallol.

Generally speaking, the author recommends lenigallol in beginning acute eczema, in moist eczema, and in 30- to 50-per-cent. strength for keratolytic purposes. No untoward effects were ever noticed, and the remedy acts only on the diseased areas of skin, leaving the healthy surroundings un-

¹ *Therap. Monatsh.*, March, 1902.

¹ *Jour. de Pharm. et de Chimie*, Feb. 15, 1902.

affected. In chronic eczema lenigallol can only be an adjuvant to tar and liquor potassæ.

The second derivative of pyrogallol, eugallol, has a syrupy consistency, which facilitates its external use. The addition of acetone liquefies the compound still further, and when this mixture is painted on the skin, the acetone rapidly evaporates, leaving a tense, elastic pellicle.

Eugallol has been warmly recommended in psoriasis, and the author, who has treated 25 cases of this affection with the drug, can corroborate the statements of others. Being less irritating, eugallol is preferable to chrysarobin, and the absence of toxic effects gives it a distinct advantage over pyrogallol.

The author considers the drug a most valuable antipsoriatic remedy, notwithstanding the fact that it is powerless in preventing recurrences.

THE INTERNAL USE OF TINCTURE OF IODINE

The supreme importance of potassium iodide in the treatment of syphilis is universally recognized. However, numerous harmful collateral effects of the drug hamper its administration and render an efficient substitute desirable. Modern chemistry has furnished us with organic compounds of iodine which often replace the alkaline iodides with advantage. An older form of administering iodine is the tincture, and Dr. Paul Richter¹ considers it worth while to revive the internal use of it.

He has himself employed the tincture of iodine in more than a hundred patients, prescribing 10 drops three times daily, to be increased by 5 drops weekly, until 30 drops are being taken three times a day, always after meals, in coffee, beer, wine, milk or water. The amount consumed by the patient in the course of treatment was about $3\frac{1}{2}$ oz. of the tincture, which is equivalent to $2\frac{1}{2}$ dr. of pure iodine. [The tincture of the German Pharmacopœia is 10 per cent. strong.—Ed.]. In action these $3\frac{1}{2}$ oz. are equal to the same quantity of potassium iodide, which contains about $2\frac{1}{2}$ oz. of pure iodine. This immense difference the author attempts to explain by the slower absorption and elimination of the tincture.

The majority of patients showed improvement of appetite and increase of bodily weight while undergoing treatment. Many who could not tolerate potassium iodide did well on the tincture. All patients were syphilitics in the tertiary stage.

The general conclusions of the author are: (1) Tincture of iodine is not so dan-

gerous a drug as to necessitate adherence to the usually given maximal dose of 5 drops. On the contrary, the dose may be safely increased to 30 drops thrice daily. (2) The drug is often well borne where potassium iodide is not. (3) Being cheaper and producing equally good results in spite of its lesser amount of iodine, the tincture deserves preference over potassium iodide.

A SIMPLE ANTISEPTIC DRESSING

Camphor and carbolic acid (crystals), triturated together until liquefied—equal parts are probably taken—forms, according to Dr. E. L. Sharpe¹ the simplest and most effective antiseptic dressing with which he is familiar. It forms a clear, heavy, oily liquid, with an aromatic camphoraceous odor; it is bland, not toxic [?], and, outside of a momentary stinging, non-irritating; on the contrary, it is quite a local anesthetic. It is the only antiseptic which he uses on his own hands and on the surface of the body to be operated upon. The eye is the only organ of the body to which the dressing is unsuitable.

For after-dressings he uses camphor-phenol diluted with 3 to 6 parts of olive oil. Thus diluted, the author found it very soothing in burns, and a stimulant of granulations. It is also a good local application in eczema, erysipelas, etc. Several serious operations are reported in which this combination proved highly satisfactory as an antiseptic.

THE ACTION OF DIGITOXIN

Dr. F. Curioni² instituted experiments with digitoxin Merck at the Turin Medical Clinic, and he reports the following results: In cases of pronounced cardiac insufficiency digitoxin produces not only an improvement in the pulse, but also an increase in the arterial blood pressure. The maximum effect becomes apparent four to five hours after the administration. In reference to the dosage, the individual tolerance must first be ascertained, and it is therefore best to commence with $\frac{1}{120}$ grn. ($\frac{1}{2}$ milligram). Such doses remove the dicrotism, make the pulse full and strong, and prolong the diastole. Doses of $\frac{1}{80}$ grn. also raise the blood pressure. In severe, chronic disease of the heart muscle, where drug habituation usually exists, doses of $\frac{1}{60}$ grn. may be used with good effect. The advantages which digitoxin possesses over digitalis are its greater efficiency and greater promptitude of action.

¹ *N. Orleans Med. and Surg. Jour.*, LIV, No. 9.

² *La Clin. Med. Ital.*, 1901, No. 11.

¹ *Deut. Aerzte-Zeit.*, 1902, No. 4.

APOMORPHINE AS A HYPNOTIC IN ALCOHOLIC PATIENTS

Drs. Warren Coleman and John M. Polk¹ have administered apomorphine hydrochlorate to 300 patients suffering from alcoholism in various degrees, in Bellevue Hospital of New York City. A number of cases are reported in detail and the authors reach the following conclusions:

To obtain a hypnotic action with apomorphine it should be given hypodermically.

The dose cannot be fixed. It is best to begin with a small dose— $\frac{1}{30}$ grn. or less—and to repeat this or give a slightly larger dose within a short time. Further doses should not be given after vomiting occurs, until several hours have passed.

Doses repeated in two or three hours have but little beneficial effect.

The administration of apomorphine should not be repeated in patients who are weak.

The duration of the hypnotic action is only a few hours, and when the patient awakes his condition is practically unchanged, except in "ordinary drunks."

The best results are obtained from apomorphine when it is followed in two or three hours by some recognized hypnotic, as bromide, chloral, paraldehyde, etc.

Solutions of apomorphine are unstable, and should be freshly made for use. Old solutions should never be used.

Apomorphine may be employed as a hypnotic in selected cases of alcoholism. The best results are obtained in "ordinary drunks" and in cases verging on delirium tremens. But in some of these cases the drug has no effect whatever.

The administration of apomorphine to patients in delirium tremens is without beneficial result, and may even be attended with danger from its depressing action.

TUBERCULOSIS IN CHILDHOOD

It is at present an established fact, says Dr. W. Stekel,² that tuberculosis is curable. Clinical and post-mortem evidence to this effect is not wanting, and nature's efforts may be assisted by a judicious combination of hygienic, dietetic, and medicinal measures. In recent years the various creosote and guaiacol preparations have found great favor in the treatment of the disease, and many lives have been saved by virtue of their curative properties. These modern therapeutic improvements have, however, found but little application to the disease in childhood. A child cannot be prevailed up-

on to fight against its own stomach, to swallow nauseating drugs, and eat without an appetite. Creosote administration has been attempted, but with very sad results, poisoning and even death having occurred. Neither have the substitutes for creosote, the carbonates of creosote and of guaiacol, found permanent favor in the therapeutics of childhood.

In view of this we must welcome warmly a new creosote compound—an odorless, soluble powder, called thiocol. Experiments on animals have demonstrated its freedom from irritating properties and the ease with which it is absorbed. Moreover, it is claimed for thiocol that it kills the tubercle bacilli, besides preventing all further progress of the disease. Thiocol is admirably adapted for administration to children. It has been employed in the form of a syrup (10 per cent. with syrup of orange), and excellent results have been reported by different investigators. The author's own experience with thiocol confirms all preceding reports in its favor.

Of course, thiocol given alone will not cure tuberculosis. It must be assisted by hygienic and dietetic measures. Plenty of fresh air is necessary. The child should sleep in a well-ventilated room and should spend most of its time out-of-doors. Bathing is extremely beneficial. We may begin by sponging the child cautiously with cool water, and gradually proceed to cool baths.

Another excellent hydrotherapeutic measure is the Priessnitz compress, which has been well said to afford the patient the "moist and warm climate of Madeira." The necessity of frequent change of underwear may also be emphasized.

The great object, however, is to stimulate nutrition, and in this respect thiocol is a most valuable remedy, being not only a specific in tuberculosis, but at the same time an excellent stomachic tonic, which brings about a very marked increase of appetite. This enables us in turn to force nutrition. Only too often the children are poorly nourished, owing to some prejudice of the mother. Besides mild broths, the yolk of an egg or a soft-boiled egg, plenty of butter, and some meat may be given to children who have passed infancy. Fruit and vegetables are also valuable. Alcohol, on the other hand, is best avoided.

The sheet-anchor of the treatment is, however, thiocol, or guaiacol-sulphonate of potassium. To children under two years of age, 6 grn. are given daily to begin with. Children between two and six years take 12 grn., and older children 24 grn. daily, in three divided doses, in solution with syrup

¹ *Amer. Med.*, III, No. 10.

² *Centralbl. f. d. ges. Therap.*, XIX, No. 5.

of orange. After a week the doses may be boldly increased. No unpleasant effects of any kind have ever been noticed. Not only pulmonary tuberculosis, but also tuberculous affections of glands and bones are amenable to thicol treatment.

The author closes his report of eight successful cases by referring to the outlook enthusiastically, and extends an invitation to practitioners to try the remedy in all cases of tuberculosis.

THE TREATMENT OF GALLSTONE COLIC

Dr. Geo. L. Eveleth¹ thus outlines the treatment of biliary colic:

The first indication is the speedy relief of the pain, and is best met by hypodermic injections of morphine, $\frac{1}{4}$ grn. every half hour until pain ceases. With the first dose of morphine, $\frac{1}{100}$ grn. of atropine may be given. External applications of heat are also useful, and a few whiffs of chloroform will relieve the sufferer while waiting for the effects of morphine.

After the attack is over, our aim is to prevent recurrence. The patient should wear a tightly-fitting woollen bandage around his abdomen. Violent exercise is injurious, while moderate activity in the open air is extremely useful. A simple, easily digestible diet, free from fats, pastries, liquors and highly seasoned articles, should be prescribed. Medicinally, the following is given with advantage:

Tinct. Nux Vomica..... 3 dr
Sodium Salicylate..... 6 dr
Fl. Ext. Xanthoxylum..... 2 oz.
Elixir Orange..... to make 6 oz.

Tablespoonful after meals.

Mineral waters should be consumed freely, if possible at the springs. Carlsbad, Sprudel, and Vichy are the best. They should be taken in quantities large enough to keep the bowels open without the aid of other laxatives. If the persistent and conscientious adherence to this mode of life does not prevent violent and frequent attacks, or if cholemia is persistent, or the attacks are accompanied by chills and fever—a sign that the gall-bladder has become infected—surgical treatment must be resorted to.

ADRENALIN AS A HEMOSTATIC

Dr. Douglas Macdonough² reports the following case: A boy aged sixteen suffered from rather severe intestinal hemorrhage, pain, and nausea, following a fall while playing football. He had a good deal of pain and tenesmus, and passed blood

very frequently (about twenty times in twenty-four hours). His temperature was 103° and his pulse 110. The pain and nausea abated under the use of bismuth and opium, and the case assumed a dysenteric character, with blood and mucus, etc. Ipecac somewhat improved the color of the evacuations, but had no effect on the hemorrhage, neither had dil. sulphuric acid, opium, nor various other astringents. The author then injected into the larger intestine, by means of a soft tube, adrenalin-chloride solution, 1:1000. [The author does not state how much]. Next morning the patient expressed himself as having felt very much more comfortable soon after the injections, and all tenesmus and hemorrhage had stopped. There was some slight diarrhea for a day or two after, and then steady recovery. The adrenalin solution had been previously given internally, but without obvious effect.

TREATMENT OF ERYSIPELAS AND SEPTIC WOUNDS AND ULCERS

Dr. W. Besdietnoff¹ has treated forty-three successive cases of erysipelas in the Uglitch Hospital in the following manner: On the day of admission a laxative was administered and the affected parts were painted with ichthyol; also the surrounding healthy tissue. The painting was repeated daily until the temperature became normal and the inflammation disappeared. This generally took place on the second or third day. He sometimes used an ointment of the following composition: Carbolic acid, 3 drops; ichthyol, $\frac{1}{2}$ oz.; petroleum, 1 oz. All the forty-three cases recovered without any complication.

The ichthyol gave similarly excellent results in septic wounds and in ulcers. The ichthyol is painted around the wound or ulcer, while the wound or ulcer itself is painted with tincture of iodine. Even old leg ulcers heal rapidly under the energetic application of ichthyol and tincture of iodine.

CREOSOTE IN TUBERCULOSIS

Dr. J. A. Burroughs² reports the results of nineteen years' experience with creosote in tuberculosis, and he remarks at the outset that success or failure in the treatment of pulmonary consumption is largely dependent upon a judicious selection and proper administration of creosote. His experience covers 2,183 cases, most of which were taking creosote. The author emphasizes the importance of obtaining the pure article,

¹ *N. Y. Med. Jour.*, LXXV, No. 10.

² *Brit. Med. Jour.*, No. 2150.

¹ *Aerztl. Praxis*, xv, No. 3.

² *Jour. Amer. Med. Assoc.*, XXXVIII, No. 5.

free from carbolic acid and other admixtures. Creosote made by double distillation from beechwood tar is the most satisfactory and only permissible article. Pure creosote is tolerated by the most sensitive stomach in enormous doses, and the author does not believe in the efficiency of small doses. Only in doses of 60 to 100 min. twice daily, by the mouth, and in quantities of 15 to 20 min. daily by local application to the lungs, does the drug exert a specific influence. It is best given in cod-liver oil, whiskey or cream. The proprietary preparations contain too little creosote to be of much use.

In all cases of laryngeal and pulmonary tuberculosis, 20 to 25 min. of the drug in some hydrocarbon oil should be forced down into the lungs daily.

The drug must be administered for months and even years, gradually increasing from small doses to the upper limit, with occasional intermissions, as the case may indicate. It is not safe to discontinue creosote until the patient has been well for two full years. Creosote, the author states, is indicated in all stages of tuberculosis and exerts a beneficial influence over most of the symptoms. It constitutes our most rational and most successful treatment.

In the discussion following Dr. Burroughs' address, different speakers attempted to discount somewhat the doctor's enthusiastic report on creosote. However, the intrinsic value of the drug was not denied.

The value of pulmonary gymnastics in the early stages of the disease was questioned by Dr. de Lancey. He considered this method more suited to advanced phases of tuberculosis.

The majority of speakers emphasized unanimously the great importance of climate in the treatment of pulmonary consumption. Whatever the climate may be, however, an outdoor life is still more important, as the patient will hardly recover in the most favorable climate if he keep to his room.

As to excessive, useless cough, a great deal can be accomplished by teaching the patient to exercise restraint over the irritation and to cough only when mucus is to be expelled.

THERAPEUTICS OF HYDROGEN PEROXIDE

Hydrogen peroxide, says Dr. Chas. H. Gunson,¹ is a most efficient germicide, and, unless used in full strength, unirritating and harmless to the delicate tissue cells. The author has used the drug in cases of lupus vulgaris, applying it daily to the

ulcers by means of a fine spray. The results were most encouraging. The granulations soon assumed a healthy appearance and cicatrization was rapid as well as permanent. Exuberant granulations may be scraped off before treatment with the peroxide.

The remedy is further efficient in chronic or tuberculous abscesses, after their contents have been evacuated. The cavities are soon filled with healthy granulation tissue and the process of repair accelerated. When sprayed daily on ulcers and purulent wounds, hydrogen peroxide will often bring about a prompt improvement when other methods have failed.

The author desires to see a high place accorded the drug as a surgical dressing.

[Our British and Continental confrères seem only lately to be awakening to the value of this most excellent remedy, which has been a standby with us for decades. —Ed.]

MORPHINE POISONING IN AN INFANT

Dr. Chas. D. Slagle¹ reports a case in which $\frac{1}{8}$ grn. of morphine was given by mistake to an infant one month old. The author, when called in, found the child comatose, cyanosed, with a pulse of 20, and four stertorous respirations per minute. Pupils, pin-point size.

Strychnine, $\frac{1}{150}$ grn., with atropine, $\frac{1}{300}$ grn., were given under the skin, the stomach washed out with infusion of coffee, the colon flushed with hot normal salt solution, and hot and cold affusions practiced. The above hypodermic had to be repeated. It took some twelve hours of continuous stimulation, application of external heat, etc., before the child was out of danger. No convulsions were present in this case.

METHYLENE BLUE AS A SEDATIVE

The chemical affinity of methylene blue for the axis-cylinders of nerves is well-known, and has suggested a possible sedative action of the drug on the nervous system. Clinical experiments seem to bear out this conjecture. Dr. Hughes and Dr. Lovelace² have used methylene blue (medicinal) in twenty-two cases, in the insane and detention wards of the Philadelphia Hospital. The results were not uniformly good, but justify further investigation.

The proposed remedy was used in cases of wild excitement, and only in six out of the twenty-two cases has it failed to calm the patient. The sedative effect could be noticed from three to four hours after the

¹ *Brit. Med. Jour.*, No. 2147.

¹ *Jour. Amer. Med. Assoc.*, XXXVIII, No. 7.

² *Phila. Med. Jour.*, IX, No. 12.

administration, lasted for from fifteen to twenty hours, and seemed more like natural quietude than the dulness which usually follows in the wake of other sedative remedies. No depression was noted, excepting in one case. The patients slept well at night, but during the day no hypnotic effect could be produced.

Unpleasant symptoms were rarely noticed, and could be attributed to prolonged use of the drug. The remedy can be given by the mouth or hypodermically, 2 grn. and 1 grn. being the average respective doses, repeated two or three times daily and, if necessary, continued for days and even weeks. The drug is safe and seems to be a promising addition to our armamentarium.

THE TREATMENT OF SEPTIC PERITONITIS

Dr. G. E. Armstrong¹ states that the treatment of general septic peritonitis leaves sufficient room for improvement in the future. The mortality of the disease is estimated at about 70 per cent. as the lowest rate. This alarming figure is undoubtedly due in part to the fact that general septic peritonitis is very often a complication of grave pathological lesions, which render the prognosis hopeless. However, our present ineffectual treatment may also be blamed to some extent.

Septic peritonitis is the result of septic infection by different pathogenic micro-organisms. The exact nature and action of the germs and their poisons remain unknown. In the prognosis a great deal seems to depend on the resisting forces of the system and on the course of treatment adopted. The latter should be directed towards removing the cause, whenever possible. If the case be seen early, operation under full anesthesia is advisable. In advanced stages a general anesthetic is too dangerous, and a small opening for drainage made under local anesthesia will have to answer. Through this opening lavage may be practiced.

Other indications for treatment are to check the spread of inflammation, to lessen the production of toxins, favor their elimination, and assist the recuperative forces. To meet these indications, peristalsis must be arrested to begin with. This is best accomplished by morphine given hypodermically. The elimination of poisons is aided by gastric lavage and the withholding of all food from the stomach. Both measures contribute further to lessening peristalsis.

While being thus an advocate of the opium treatment, the author emphasizes its limitations: only during the after-treatment,

after the initial cause has been attended to, does he employ the drug. Its use before operation he considers contra-indicated. Opium, with these limitations, meets most of the indications admirably. It lessens peristalsis, thus indirectly interfering with the spread of infection and favoring the formation of limiting adhesions. It relieves pain and thus allows greater excursions of the diaphragm, which circumstance favors in its turn the flow and absorption of fluids from the peritoneal cavity. As a result, the congestion of the peritoneum is relieved.

The author has applied these theoretical considerations to the bedside, and is highly satisfied with his results. The points of treatment that he desires emphasized are.

(1) Careful selection of cases for operation under general anesthesia, and more frequent use of local anesthetics.

(2) Exclusively rectal feeding.

(3) The use of morphine after operation or after symptoms of perforation, while preparations for operative treatment are being made. In these cases opium is remarkably well borne, as if it acted as an antidote to the poisons developed in general septic peritonitis.

CALCIUM SULPHIDE IN DIPHTHERIA

Dr. E. L. Abogado¹ confirms the efficacy of calcium sulphide in the treatment of diphtheria. It cures mild cases without further medication, and in severe cases proves a most valuable adjuvant to antitoxin treatment. He established its efficacy in 110 cases of complicated diphtheria, in 21 of mild, pure diphtheria, and in 13 severe, pure cases. None of the two last groups died. The sulphide was the only therapeutic agent employed in any of the cases. Its efficacy is probably due to its action on the associated microbes as well as on the diphtheria germs, while antitoxin is powerless against the former. He usually administers $\frac{1}{2}$ grn. every hour up to one year of age; $\frac{1}{3}$ grn. every half-hour between one and three; $\frac{1}{2}$ grn. every fifteen minutes between three and five, or 5 grn. during the day. Between five and fifteen, $\frac{1}{2}$ or $\frac{1}{3}$ grn. every fifteen minutes, or about 8 grn. during the day. Adults should take 10 grn. during the twenty-four hours, suspending the medication whenever the breath exhales the characteristic odor very intensely. He administers about 1 grn. a day in 5 to 6 divided doses as a preventive measure to children exposed to contagion. He considers it a very valuable internal antiseptic and has never known of any untoward effects from its use in this way during six years of experience.

¹ *Montreal Med. Jour.*, xxxi, No. 2.

¹ *Cronica Med. Mex.; Jour. A. M. A.*, Jan. 11, 1902.

SPINAL ANESTHESIA

Dr. W. Kopffstein¹ employs *a*-eucaine and tropacocaine for inducing medullary analgesia. Eucaine was used in 4 and tropacocaine in 40 cases. The dosage was $\frac{1}{2}$ grn. of eucaine and up to $\frac{5}{6}$ grn. of tropacocaine, injected into the spinal canal between the third and fourth lumbar vertebrae. The cases operated upon comprised anal fistula, gangrene of the feet, a sacral dermoid, radical operation for hydrocele, hemorrhoids, herniotomy, amputation of the thigh, incision of a bubo, laparotomy.

In cases where the anesthesia was well tolerated, the advantages of the method were striking. But in quite a few patients such symptoms as retention of urine, paresis of the lower extremities, headache, nausea, dyspnea, and even collapse followed. In some the injection produced only partial anesthesia or failed altogether and no operation could be performed.

Certain individuals seem to possess an idiosyncrasy against eucaine and tropacocaine, showing intensified untoward effects.

Tropacocaine seems to influence the circulation and respiration much less strongly than eucaine, and is thus more adapted for use in elderly persons. Moreover, the headache following tropacocaine is less intense and the drug does not cause fever.

Considering the possibility of dangerous collapse, which can never be foreseen, and remembering further the occasional failure to induce anesthesia, the author advises to employ ether or chloroform in all cases requiring an immediate operation. The old method is certain in its action, while the new is not.

SODIUM CINNAMATE IN TUBERCULOSIS

Dr. Alfred Mann² has been experimenting with Landerer's method of treating tuberculosis by intravenous injections of sodium cinnamate and reports a new series of cases. Some of them were mild, others severe. Of course, the method, like every other, may be expected to give the best results in incipient consumption. Once the lung tissue is profoundly altered by the specific process, no treatment will restore it to the normal condition.

The healing influence of sodium cinnamate over tubercular areas is probably due indirectly to the increase of white corpuscles in the blood brought about by the injections. As adjuvants to this method, the author employs strychnine, iron, and other general tonics. The results obtained justify further employment of the method. In sev-

eral cases a complete cure resulted, while others were considerably improved. The action of the method consists in substituting "an active aseptic inflammation for an inactive one," and the result is rapid cicatrization.

REVIEW OF LITERATURE ON DORMIOL

The ideal hypnotic must be prompt and certain in action, harmless, and must not produce rapid habituation. Such a combination of medicinal excellences is rather a difficult one to conform to, and we must be satisfied with approximations to our ideal. According to Dr. Wederhake¹ dormiol, a chemical compound of amylene hydrate with chloral, comes as near to the ideal as any other hypnotic. After experimenting with the drug in numerous cases of sleeplessness in the insane, the author concludes:

(1) Dormiol is harmless and does not lose its efficiency even after prolonged administration. No unpleasant symptoms need be feared from its use.

(2) The action of dormiol is not so powerful as that of chloral hydrate, and it is therefore indicated in milder cases of insomnia. Where pain is present it acts only in combination with an opiate.

(3) The sleep of dormiol is similar to physiological sleep. The drug acts in fifteen to thirty minutes, and the effect lasts five to eight hours.

Dr. Besançon² has employed dormiol clinically and found it to be superior in effect to the other hypnotics, opiates, sulfonal, trional, and chloral. Dormiol succeeded in cases where these failed to induce sleep. He says that it is an excellent hypnotic in the insomnia of neurasthenia, hysteria, alcoholism, etc. No injurious effects could be noticed, no disturbances of circulation or respiration, no erythema, as is often the case after chloral. The sleep produced by dormiol is quiet and free from nightmares, the awakening normal, not accompanied by nausea or headache.

The opiates being dangerous drugs in young children, Dr. L. Fürst³ has tried dormiol in doses of 8 to 16 min. by rectum, in a starch decoction for a vehicle. These doses produce restful sleep of some six hours' duration. In older children the remedy may be given by the mouth in a mucilaginous vehicle. A 10-per-cent. solution of dormiol contains about 16 min. of the drug in a dessertspoonful. Like every other hypnotic and sedative, it should be given only when urgently called for and not

¹ *Wiener klin. Rundschau*, 1901, No. 49.

² *Phila. Med. Jour.*, IX, No. 9.

³ *Allg. Zeitschr. f. Psychiatrie*, LVIII.

² *Jour. de Méd. interne*, VI, No. 1.

³ *Deut. med. Zeit.*, 1901, No. 91.

longer than necessary. The sedative action of dormiol has been found a welcome by-effect in chorea, night terrors, and other nervous affections.

Favorable reports led Dr. H. Dehio¹ to employ the drug in his institution for the insane at Bernberg, and after a year's use, it became a routine remedy at the asylum. In order to ascertain the physiologic action of the drug, the author took the drug in doses of $2\frac{1}{2}$ drams of the 10-per-cent. solution at night. Sleep rapidly supervened, was restful, without dreams, and without any unpleasant sensations on waking. Similar effects were observed when the remedy was given to insane patients. If administered during the day, dormiol failed to induce sleep, but the patients became more quiet and restful. The hypnotic power of dormiol was found to be almost equal to that of chloral.

The author had occasion to administer large doses of dormiol (6 dr. twice daily) for several weeks in succession. He found that the patients became accustomed to the drug, but this habituation appeared much later than when paraldehyde was used. Cases of insomnia with restlessness and noisiness were generally subdued by a dose of 6 dr. of 10-per-cent. dormiol. During the first experiments, doses of 1 oz. of the 10-per-cent. solution were exhibited with no unpleasant sequelæ. In doses of 2 dr. the drug was active only in mild insomnia.

As in the case with all purely narcotic hypnotics, dormiol, when combined with other remedies, was more potent than if given by itself in increased quantities. For such combinations a preceding dose of sulfonal is very efficient. The author has used dormiol extensively and has not observed any deleterious effects on pulse or respiration: no rashes, loss of appetite or diarrhea follow its administration. In cases of conjunctivitis caused by chloral, the inflammation subsided after dormiol was substituted.

It is of particular interest to note that dormiol, being a derivative of amylene hydrate, ought to exercise a similar effect on the epileptic state and its excitations. Having tried the remedy in suitable cases, the author thinks its action is to a degree favorable, but abstains from definite conclusions. The number of attacks seemed to be diminished and they did not reach such a degree of severity.

Dr. B. Tendlau,² physician to the Hospital Moabit (Berlin), says that, in Prof.

Goldscheider's division, dormiol was used in a great variety of cases of insomnia. The causes of the insomnia included alcoholism, acute pain, cachexia, neurasthenia, hysteria, heart disease, and convalescence from the acute infectious diseases. The results were variable. In insomnia due to severe pain small doses of dormiol produced no effect whatsoever; tablespoonful doses of the 10-per-cent. solution induced a short sleep, shorter than that induced by similar doses of trional, chloral, or amylene alone; in compensation, however, the after-effects which follow the use of the latter drugs—headache, nausea, malaise—were always absent. In the milder forms of agrypnia, especially in the insomnia of neurasthenic and hysterical patients, the administration of dormiol was generally followed by a deep sleep lasting several hours. The author thinks that the real indication for the use of dormiol will be found in this last class of cases. The dormiol also proved useful in cases of heart disease, where chloral could not be administered.

Dr. Franco da Rocha,¹ director of the State Hospital in S. Paulo, says that after using dormiol in his hospital and private practice, he has come to agree with other clinicians that in dormiol we possess a perfectly harmless and quite effective hypnotic. The author never gave more than a tablespoonful of 10-per-cent. solution. He found this dose very effective in many cases of strong excitement and also in hallucinatory insanity.

Dr. J. Munk² also speaks favorably of dormiol as a hypnotic and sedative.

ARRHENAL—A NEW CACODYL PREPARATION³

This preparation is closely allied to sodium cacodylate, from which it differs, however, in being a monomethyl sodium arsenate, while the regular sodium cacodylate is a dimethyl sodium arsenate. The formula of the latter is $\text{As}(\text{CH}_3)_2\text{O}_2\text{Na}$, while the formula of arrhenal (or, as Gautier named it, *sal arsenicale B*) is $\text{AsCH}_3\text{O}_2\text{Na}_2$. Experiments on animals showed its entire innocuousness. Gautier then tried it on himself, both per os and subcutaneously, and assuring himself of its non-toxicity, he began to use it therapeutically on others. Dr. Billet, of the Military Hospital at Constantine, Africa, tried the new remedy on nine cases of severe malaria. Doses of 1 to $1\frac{1}{2}$ grn. were injected subcutaneously. The injections were not painful, were well borne, and the drug was rapidly and completely

¹ *Psychiatr. Woch.*, 1900, No. 37.

² *Fortsch. de Medizin*, 1900, No. 44.

¹ *Revista Medica di S. Paulo*.

² *Deut. Praxis*, May, 1901.

³ *Acad. de Méd. de Paris*, meeting of Feb. 11, 1902.

absorbed. Though the dose was small, and some of the cases were of a pernicious character, all nine patients were cured after 1, 2 or 3 injections. If $1\frac{1}{2}$ to $2\frac{1}{2}$ grn. be injected at first, no repetition of the dose would be necessary. It is remarkable that in these cases quinine in large doses remained without effect. The action of arphenal on the appetite and the increase of erythrocytes and hemoglobin is most favorable.

JEQUIRITOL

An infusion of the jequirity-bean was formerly employed in the treatment of trachomatous pannus. Although the remedy gave good results, its use had to be discontinued on account of the severe inflammatory phenomena following an overdose. The active principle of the bean not having been known, an exact dosage was out of the question. Since then, the active agent has been discovered and named abrin. This discovery led to new experiments with jequirity in ocular affections. Dr. Ottmar Salfner¹ has used the drug in trachomatous pannus, in chronic eczematous keratitis with eczematous pannus, in the opacities due to parenchymatous keratitis, etc. He employed Merck's preparation of abrin, called jequiritol. This drug is dispensed in varying strengths, enabling a gradual increase of dosage.

The general results obtained so far are such as to encourage further trial of the remedy. It is not a specific, but a most valuable agent in the treatment of pannus, and particularly in superficial corneal opacities.

THE USES OF IODIPIN

Dr. Ed. Hoenigschmied² has employed iodipin in the following conditions: Scrofulous glandular diseases, impetigo, scrofulous diseases of the bones and bone-marrow, scrofulous ulcers and infiltrations, sciatica, and emphysema of the lungs.

The author always gave the 10-per-cent. iodipin to children, 1 teaspoonful morning and evening. For adults, he employed the 25-per-cent. iodipin subcutaneously. Three cases of sciatica, treated in this manner, gave the most gratifying results, the pain having promptly disappeared and a permanent cure obtained. One or two injections sufficed. The local reaction was very mild and transient. A very illustrative case is the following one: A woman of thirty years, who had been scrofulous since childhood, presented various forms of this disorder. The skin, bones, bone-marrow, and

periosteum were diseased. She had undergone several courses of operative treatment. This time periostitis of the right parietal bone developed. Surgical measures were not consented to by the patient. Besides the nasal bones, the sternum, the jaws, and the neck showed scrofulous manifestations, as ulcers, infiltrations, etc. Hemoptysis was present, though phthisis could not be diagnosticated. The patient was given two injections of iodipin weekly, each time an ounce of the 25-per-cent. solution. The total injections ran up to 20, thus making a quantity of 20 oz. of iodipin. At the same time about 3 oz. of the 10-per-cent. solution were taken by the mouth. *This immense quantity of iodipin did not produce the slightest symptoms of iodism.* The appetite was good, the general condition improved, hemoptysis disappeared, and the patient gained in weight. Occasionally a mild, local reaction took place, owing probably to technical imperfections. The scrofulous manifestations showed a most striking improvement, and the parietal periostitis healed, with the assistance also of silver-nitrate applications.

In cases of scrofulous infiltrations, the author advises the injection of iodipin directly under the thickened tissue.

In a later report the same author¹ reports his experience with the drug in cases of pulmonary emphysema and scrofulous conditions.

In emphysema, a tablespoonful of iodipin (10 per cent.) before breakfast, given for two weeks in succession, brings about a marked improvement, which seems to last several months. Only in one case were untoward by-effects noticed: A man of fifty years, suffering from severe emphysema, associated with excessive sweating after the slightest exertion, was put on iodipin, 4 dr. before breakfast. After 8 oz. were consumed, acne and redness appeared in the face, but promptly disappeared under a bismuth-mercury salve. The emphysema improved greatly and the excessive sweats did not appear on each slight provocation as before treatment.

Equally amenable to iodipin are scrofulous conditions. A girl of thirteen, who suffered for years with very severe manifestations of this diathesis, was put upon 10-per-cent. iodipin. No improvement following the consumption of 3 oz., she was given hypodermic injections of $\frac{1}{2}$ oz. of 25-per-cent. iodipin daily. No pain or reaction at sites of puncture appeared. After two weeks of medication improvement became manifest and continued steadily, until the

¹ *Archiv f. Augenheilk.*, XLIV, No. 4.

² *Aerzt. Zeit.*, 1901, No. 28.

¹ *Aerzt. Centr.-Anzeiger*, XIII, No. 41.

amount of 16 oz. of 25-per-cent. iodipin was consumed, when most manifestations of scrofula had either disappeared entirely or showed unmistakable amelioration. No symptoms of iodism whatever. Similar excellent results were obtained in another scrofulous girl of thirteen years, who consumed 18 oz. of iodipin (10 per cent.) without the least signs of irritation. All patients gained in weight, acquired a better appetite, and rapidly learned to tolerate the oily taste of iodipin.

Encouraged by the uniformly favorable reports on iodipin, Dr. Emil Friedländer¹ decided to try the drug in his own practice and obtained certain and brilliant results with it in all forms of tertiary syphilis. No symptoms of acute iodism were observed.

Very gratifying results were also obtained with iodipin in simple hypertrophy of the thyroid gland (goiter). Furthermore, the drug has been successfully given in bronchial asthma. Some patients find the oily taste of the remedy somewhat repulsive, and for them a little oil of peppermint or hot coffee may be recommended as correctives. Others, who are accustomed to oils, take the remedy without any objections. Finally, those who find the taste of iodipin an insurmountable difficulty will have to submit to its hypodermic administration, which is one of its great advantages over the older iodine compounds.

Dr. Wanke² reports some interesting cases in his experience with iodipin:

(1) The patient, a man suffering with general paresis, was put on iodipin treatment. Ten injections ($2\frac{1}{2}$ dr. each) of the 25-per-cent. solution were administered, and the same number of doses repeated later on, without any undesirable effects whatever. The improvement obtained by this course of medication was considerable. The patient regained his failing memory, fibrillary tremors ceased, and his mental condition again approached the normal type. He even married and went traveling. Of course, the amelioration was only temporary.

(2) A patient with epilepsy of syphilitic origin. A course of hypodermic iodipin injections ($2\frac{1}{2}$ dr. each of the 25-per-cent. preparation) brought about a marked improvement. The fainting spells and attacks of vertigo disappeared almost completely for a time, but returned later and were again controlled in the same manner. The remedy was very well tolerated.

(3) A man of thirty-eight years, presenting symptoms of general paresis. A course of iodipin brought about a striking change, the abnormal phenomena disappeared, and the patient, an officer of the army, could even resume his military duties. The improvement has been a permanent one.

A noticeable feature in this case was the

local infiltration, which appeared at the site of injection and was accompanied by a fever of two days' duration. The occasional formation of infiltrations is, however, inseparable from hypodermic medication and cannot count against iodipin treatment in the least.

The author arrives at the conclusion that iodipin deserves our preference before all other iodine compounds.

The hypodermic employment is, in the author's opinion, the most convenient and effectual mode of supplying the system with iodine. The 10-per-cent. solution will answer most purposes. Robust patients can be put on the 25-per-cent. solution with impunity. Symptoms of iodism, so common with our old preparations, seldom appear after giving iodipin.

The diseases in which iodipin has shown itself effective are tertiary syphilitic epilepsy, recent cases of general paresis and locomotor ataxia, diabetes insipidus, aortic aneurism, lead-palsies, emphysema, bronchial asthma, etc.

Prof. Rille¹ reports two cases of tertiary syphilis and six cases of psoriasis treated with iodipin. In the syphilitic cases injections were made daily in the nates with 10 Cc. of a 25-per-cent. solution of iodipin. In one case ten injections were made with good results. In the second case forty-two injections were made. There was no induration at the point of injection. The same solution was used with good effect in cases of psoriasis.

Dr. Angelo Cambiaso² has found the maximum dose of iodipin that may be given without fear of producing any symptoms of intoxication to be 9 dr. A dose of 10 dr. produced headache, coryza, etc. The therapeutic action of the drug is, however, fully manifest even in small dosage. The author commences with one teaspoonful and increases the dose gradually up to a tablespoonful three times daily. Patients readily take iodipin. The oily taste may be corrected by adding a little brandy or oil of peppermint, or the patient is told to chew a piece of bread before and after taking the medicine.

The remedy is indicated in all diseases calling for iodine. The new compound causes no gastric disturbances and exercises a prolonged and continuous action, as proven by the fact that days after discontinuing iodipin the urine shows traces of iodine.

¹ *Allg. med. Centr.-Zeitung*, 1901, No. 58.

² *Correspond. Blätter*, 1901, Nos. 6 and 7.

¹ *Wien. klin. Woch.*, 1901, No. 30.

² *Gazz. degli Osped.*, 1901, No. 12.

CINCHONINE SULPHATE IN CORYZA

Dr. James E. Talley¹ thinks that cinchona sulphate has a distinct influence in checking nasal and naso-pharyngeal secretion. He has used it for about two years in private and hospital practice and thinks it has a definite use in coryza, hay-fever, and allied conditions. The usual dose is 4 to 6 grn. three or four times a day, and such a daily dose generally suffices to check the flow in coryza.

DIAGNOSIS AND TREATMENT OF DIPHTHERIA

Dr. L. T. Royster² writes on the symptomatology and management of diphtheria. The disease has an incubation period varying from one to seven days, sometimes even less than twenty-four hours. Among the initial symptoms, vomiting and convulsions are rare, contrary to their frequency in the acute exanthemata. A short period of malaise sometimes introduces the disease, but the first complaint that attracts attention is difficulty in swallowing or pain at the angle of the jaw. The temperature is not high, about 100° F. and over. The pulse is very rapid, owing to the intoxication of the system. This disproportion of pulse and temperature is a valuable diagnostic feature.

The local picture in the throat is not invariably typical, and may present great difficulties to the diagnostician. Follicular tonsillitis is particularly apt to be confounded with certain forms of diphtheria.

The treatment is comprised in the administration of antitoxin, in local irrigation, and the use of stimulants. Antitoxin is the specific, and its success depends on early diagnosis and sufficient dosage. The first dose should not, as a rule, be less than 2,000 units, repeated in twenty-four hours if no pronounced improvement follows. In severer cases the author injects from 3,000 units in children to 4,000 or 5,000 in adults. Improvement generally becomes manifest within thirty-six hours after the initial dose. Next to antitoxin, stimulation is all important. Whiskey and strychnine are the remedies of choice.

In spite of the most energetic treatment, operative interference may become necessary. The author is in favor of intubation but warns against its indiscriminate use. A distinct indication for it must be present, as the operation is not without its drawbacks and dangers, notably that of broncho-pneumonia. The latter, however, occurs more frequently after tracheotomy.

The color and the pulse are the two best indications of the necessity of intubation.

When other measures have failed to relieve the breathing and when the pulse becomes rapid and weak, the operation is justified. A continued cyanosis is another urgent indication.

In private practice it is often advisable to insert the tube before it is actually needed, rather than wait until the patient is too far gone.

THIOCOL IN TUBERCULOSIS

Dr. O. von Boltenstern¹ has substituted thiocol for creosote in the treatment of tuberculosis. He finds the remedy to possess all the advantages claimed for it and believes that its employment overcomes many former objections to creosote administration. He also adds that it has given excellent results in certain catarrhal conditions of the respiratory organs without a tuberculous basis, as, for instance, in the bronchitis following whooping-cough.

Dr. Wilhelm Schullhof², of Budapest, has made thiocol the subject of a series of investigations at the Budapest Polyclinic. He sums up his conclusions regarding the remedy as follows: Thiocol may be recommended in all those cases in which creosote has heretofore been given, as it possesses the useful properties of the creosote preparations in an increased degree because, by means of it, more guaiacol may be introduced into the organism than can be done by creosote, and without the repugnant taste and odor or irritant action of the latter. A certain connection between the increase of appetite and gain in weight could in certain cases be unquestionably seen. No unpleasant by-effects, or disturbances of digestion or nutrition, or diarrhea, were observed, even in advanced cases of disease wherein no improvement could be expected. In most cases the therapeutic object of the treatment—increased nutrition—was obtained, and the conditions thus reached wherein a cure might be consummated.

Dr. E. Vogt³ reported on thiocol before the Paris Society of Therapeutics. He states that, although the treatment of tuberculosis has been remarkably successful in sanatoria, we must, nevertheless, often treat cases outside of institutions. And it is in such cases that the necessity of some medication is felt. The author has experimented with thiocol on fifteen patients. Eight grains of thiocol were ordered, four times daily for two months. As to the results obtained, there was striking uniformity as to the absence of untoward effects of the

¹ *Therap. Monthly*, II, No. 2.

² *Med. News*, LXXX, No. 9.

¹ *Reichs. medizin.-Anzeiger*, XXVI, No. 12.

² *Klin.-therap. Woch.*, VII, p. 778.

³ *Rev. de Thérap.*, LXVIII, No. 24.

remedy. Furthermore, in early cases, without any symptoms of cavities, good general results could be recorded, while advanced cases naturally showed less improvement.

The author is convinced that thiocol has a great future as a prophylactic in persons predisposed to consumption, and as a curative agent in incipient phthisis. Its great advantage lies in its freedom from toxicity, which enables a prolonged and continuous administration.

CARBOLIC ACID IN HYDROCELE

At a recent meeting of the New York Academy of Medicine, Dr. Wm. B. Coley said that he found the injection of minute amounts of carbolic acid to be the best method of treating hydrocele. Each injection consisted of $2\frac{1}{2}$ grn. of carbolic acid liquefied by the *smallest* requisite amount of glycerin. The results were just as good as with injections of larger amounts, while the risk and discomfort were, of course, much less.

It is convenient to use a small double trocar. The hydrocele fluid having been thoroughly evacuated through the outer trocar, the carbolic acid is injected through the inner trocar attached to a hypodermic syringe.

The hydroceles of infancy nearly all disappear spontaneously or are cured by painting with equal parts of tincture of iodine and tincture of belladonna.

METHYLENE BLUE IN ULCERATIVE TONSILLITIS

Vincent's angina is a severe form of tonsillitis, characterized by fetid ulceration, high fever, and painful swelling of the lymphatic glands. At a recent meeting of the Société des Hôpitaux, Prof. Chauffand¹ reported such a case, which was completely cured by three applications of the pure medicinal methylene blue. As the ulceration resembles a chancre, this treatment is also useful in establishing a differential diagnosis.

ICHTHARGAN OINTMENT IN BLOOD-POISONING

Dr. Wilckens, of Hamburg, reports a case of blood-poisoning in which he used a 10-per-cent. ichthargan ointment, with excellent results. The septic process started from the right index finger and spread progressively, reaching the axilla. From 15 to 30 grn. of the ointment was well rubbed in the arm and forearm, twice during the day, and in twenty-four hours after the first application the process was at a

standstill. After that the application was made only once a day, and in ten days the patient was perfectly well. One may therefore conclude that the ichthargan is absorbed through the skin into the lymph channels, where it exerts its bactericidal action.

PYOKTANIN

Dr. Lustwerk¹ has obtained good effects from the employment of pyoktanin in the dropsy of cardiac and nephritic origin. The patients were given $1\frac{1}{2}$ grn. of the drug in capsules, thrice daily, three hours after meals, to avoid digestive disturbances. In nine cases out of eleven constituting the author's series, marked improvement resulted; the remaining two could not tolerate the drug, and were not benefited by other cardiac remedies.

QUINOLINE-BISMUTH RHODANATE IN GONORRHEA

The crurin of the market, which was originally recommended for ulcers of the leg (*ulcus cruris*), is said to be a mixture of 3 parts of quinoline-bismuth rhodanate and 1 part starch. Dr. E. Jacobi² has experimented with the pure chemical as an injection in gonorrhea and claims to have obtained most gratifying results. He used it in the following formula:

| | |
|--------------------|------------------|
| Crurin..... | 1 Gm. (15 grn.) |
| Rub with | |
| Aquæ Dest., | |
| Glycerini, aa..... | 5 Gm. (75 min.) |
| Then add gradually | |
| Aquæ Dest., ad... | 200 Gm. (6½ oz.) |

THE TREATMENT OF MALARIAL FEVER

The necessity of administering salts of quinine hypodermically is imperative in the severe forms of malarial fever. Dr. G. B. Ferguson³ recommends the dihydrobromate of quinine in chronic malaria. The salt is stable and soluble in 6 parts of water. The solution is but faintly acid and does not cause much pain. The author injects 3 grn. dissolved in 20 min. of pure warm water. Six injections on alternate days are usually required in a serious case. The syringe as well as the site of injection are disinfected with a strong carbolic solution. The needle is sterilized in the flame of an alcohol lamp. The solution of quinine is sterilized when first prepared. These precautions will obviate the danger of tetanus, which is not infrequent in the tropics. There are also few cases of malaria which will resist six

¹ *Russky Vrach*, 1902, No. 9.

² *Deut. med. Woch.*, Dec. 26, 1901.

³ *Brit. Med. Jour.*, No. 2147.

¹ *Med. Rec.*, LXI, No 6.

injections of quinine dihydrobromate of 3 grn. each. The equivalent dose by the mouth would be about 30 grn. and such quantities are very likely to derange the digestion.

The hypodermic method, moreover, insures more rapid effects. The excretion of quinine through the urine begins a few minutes after the injection. The author advises the injections to be given two or three hours before the expected paroxysm, so as to destroy the spores. In chronic cases it matters little when the remedy is administered, provided enough is given.

THE PHARMACOLOGY OF EUQUININE

Dr. J. Laumonier¹ states that among the recently introduced antipyretics and antiperiodics, euquinine (quinine ethyl-carbonic ether) possesses specific properties and is destined to a permanent place in therapeutics. Euquinine, the author says, is prepared synthetically by the action of ethyl-carbonic acid on quinine. It is in the form of soft, white needles, melting at 95° C., soluble in alcohol, ether and chloroform, but slightly soluble in water. It gives an alkaline reaction with litmus paper and combines with acids to form crystallizable salts; it is practically tasteless, thus having a great advantage over quinine and its common salts. This form of quinine is perfectly well borne by the stomach, does not cause vomiting or any dyspeptic troubles, and is free from the cerebral symptoms and the tinnitus aurium, which are so characteristic of quinine. Euquinine has distinctly antipyretic and antiperiodic effects. The antipyretic effects are manifested soon after the administration of the drug and have been observed and reported upon by all investigators, among whom are Von Noorden, Mori, Bianchi, Bardet, and others. But the remarkable effect in malarial and paludal fevers shows that its antipyretic action is due to a considerable extent to its bactericidal power.

The administration of euquinine for a long period results in the improvement of the blood: the number of red blood corpuscles and the percentage of hemoglobin are increased, as demonstrated by Overlach. Bianchi holds that euquinine has a specific effect on the spleen and on the hematopoietic organs. In small doses it has the same tonic effect as quinine. Concerning the elimination of euquinine, Panegrossi and Gammarelli have demonstrated that it begins to be eliminated in the urine about half an hour after its ingestion: the maximum

is reached in about seven hours and is at an end in forty-eight hours. The alkaloid extracted from such urine has a very bitter taste, which goes to show that euquinine is probably decomposed in the body, quinine being re-formed.

From what has been said above, the therapeutic effects of euquinine are manifest. According to Italian physicians, who are in the best position to judge, euquinine is the antiperiodic par excellence, particularly in young subjects, and a dose of 16 to 24 grn. generally suffices to break up malarial attacks. In all the various forms of intermittent fevers, its action is equally satisfactory; and its action as an antipyretic is sure and pronounced in the various pyrexias. On account of its practical tastelessness, we are enabled to administer it in milk, soup, fruit syrups, etc., and as it is also well borne by the most delicate stomachs, it becomes a precious remedy in the treatment of fevers in children. In whooping-cough it is very useful, bringing about a decided amelioration of all the symptoms, according to Von Noorden, Cassel, Niedermayer, and Gerenstein. Overlach found it useful in small doses in chlorosis and anemia.

THERAPEUTICS OF THIOSINAMINE

Thiosinamine is a derivative of oil of mustard and was introduced into therapeutics some nine years ago. The drug exerts some influence over tuberculous skin-tissue. An injection produces in a short time (about two hours) a reactive inflammation of the diseased locality. However, the remedy is far more valuable in the treatment of hypertrophic scar-tissue and keloid-growths.

Dr. F. Juliusberg¹ employed injections of thiosinamine in the various forms of scar-tissue, especially in those resulting from healed lupus. The tense and immobile tissue of the latter soon became soft and movable under this treatment. In one case lupus had transformed the patient's face into a fixed mask, and the mouth shrunk to the size of a small opening, scarcely large enough to admit the little finger. Repeated operative attempts were unsuccessful, until a series of injections with thiosinamine had softened the connective tissue to such a degree that a new dilatation of the mouth gave permanent relief.

Similarly good results were obtained in hypertrophic scar-tissue following burns, furuncles, etc. Thiosinamine was also used in cases of scleroderma with striking success. Several injections would make the

¹ *Nouveaux Remèdes*, XVII, No. 15.

¹ *Deut. med. Woch.*, XXVII, No. 35.

hard tissue soft and pliable, thus removing the obstacles to free motion.

In a series of such cases a course of treatment lasting from two to four months resulted in complete cure. Others have corroborated the author's statements in their own practise.

The drug was employed in the form of a 10-per-cent. solution (thiosinamine, 10 Gm.; glycerin, 20 Gm.; distilled water, to make 100 Gm.). Injections of this mixture are absolutely painless. A syringe holding 15 min. contains 1½ grn. of thiosinamine, and this amount may be given every other day, or daily. The single dose may even be increased to 3 or 5 grn. Should the thiosinamine be precipitated from the solution, the latter must be slightly warmed and the remedy will redissolve.

Thiosinamine is also prepared in the form of soaps and plaster-mulls. The latter come in strengths of 10 to 20 to 30 per cent., and are quite efficient, though apt to cause a troublesome reaction in sensitive and intolerant skins. The therapeutic action of thiosinamine depends probably on its lymphagogue properties. Of occasional untoward effects, urticaria may be mentioned.

In fresh lupus, in locomotor ataxia, mycosis fungoides, and induration of the corpora cavernosa, the remedy is of no value, says the author, contrary to the statements of others.

SPRAY FOR ASTHMA

Dr. A. Abrams¹ recommends the following injection as a spray in asthma:

| | |
|------------------------------|---------------|
| Antipyrine | 15 grn. |
| Pyridin | 1 dr. |
| Sod. Nitrite | 2 dr. |
| Tinct. Lobelia Ethereal..... | 5 dr. |
| Tinct. Belladonna | 5 dr. |
| Tinct. Stramonium | 5 dr. |
| Tinct. Ipecac | 5 dr. |
| Glycerin | to make 4 oz. |

THERAPEUTICS OF DIONIN

Dr. O. von Boltenstern² publishes a general review of the literature on this remedy.

Dionin is the hydrochlorate of ethyl-morphine, and appears as a white, odorless powder, of slightly bitter taste. Its free solubility accounts for its more rapid action as compared with other morphine derivatives. Moreover, dionin is free from the toxic properties of the latter. No gastric disturbances, no constipation, no alterations in cardiac action, follow the use of dionin in proper dosage. Neither has habituation been observed. The action is very prompt,

appearing fifteen minutes after subcutaneous exhibition. The drug possesses valuable sedative, narcotic, and analgesic properties.

In diseases of the respiratory tract, presenting severe cough and pain, the administration of dionin affords marked relief. It may be given in doses equal to those of codeine, in numerous respiratory affections, such as tuberculosis, asthma, emphysema, pneumonia, whooping-cough, etc. In tuberculosis its analgesic and sedative properties are of great value. It calms the cough-irritation, influences favorably the night-sweats, and induces restful sleep. Asthmatic seizures become less frequent and severe under continued dionin medication. Similarly good effects were obtained in whooping-cough, as well as in all other respiratory affections accompanied by painful cough and dyspnea. In painful tuberculous ulcerations of the larynx, dionin is far more effectual than any other morphine derivative. The central nervous system seems to remain uninfluenced by the remedy, and this makes it a safe narcotic for children. The hypnotic properties of dionin are highly spoken of. In the insomnia of neuralgia, pleurisy, gastric ulcer, etc., the remedy was found to be of great service, particularly in combination with potassium bromide.

Some authors emphasize the analgesic action of dionin. In biliary colic, appendicitis, gastralgia, gastric ulcer, and other painful affections, it has given good results. Excellent effects were observed after its use in the gastric crises of locomotor ataxia. In painful gynecological affections and in ocular diseases equally marked results were obtained. In the latter dionin is also serviceable on account of its peculiar ability in producing an increased lymph-circulation, and thus encouraging the absorption of inflammatory products. Finally, dionin is now being highly recommended in the treatment of morphinism.

On the whole, we possess in dionin a most valuable substitute for morphine and its derivatives, concludes the author.

At a meeting of the Society of Neuro-pathologists and Psychiatrists at the University of Khosan, Dr. M. M. Maevsky¹ spoke of his employment of dionin in mentally deranged patients. He used it with very good results in nineteen cases altogether, chiefly those of maniacal excitement. Equally favorable results were obtained in cases of sexual excitement and irritability. The author says that dionin contracts the congested cerebral blood-vessels,

¹ *Med. Fortnightly*, XX, No. 9.

² *Allg. med. Centr.-Zeit.*, 1901, Nos. 15 and 16,

¹ *Pract.*, XXII, No. 6.

and thus allays the cerebral irritation. Its effectiveness in diminishing sexual irritability and erections is also undoubted. It also has an excellent curative effect in masturbation, exerting a sedative action and destroying the desire to masturbate. The dose employed was $\frac{2}{3}$ to $\frac{5}{8}$ grn., hypodermically. In the discussion that followed the reading of the paper, Prof. N. M. Popoff said that the property of dionin to diminish sexual excitement deserves serious consideration, and that should this property be confirmed by other investigators, we will become richer by a very important therapeutic agent.

CHLOROFORM AND HEART DISEASE

Dr. Guyon¹ has often had occasion to observe that chloroform is well tolerated by individuals affected with valvular heart-disease, angina, and atheroma. He is inclined to consider chloroform as a comparatively safe anesthetic in these cases, excepting only those suffering from fatty cardiac degeneration. Of course due caution in administering the anesthetic is imperative. Respiration and pulse should be watched unceasingly, and the drug given in small quantities.

Dr. Brouardel has performed the autopsy on twenty-five cases of death from chloroform, and found no valvular heart disease in any of them. In four, fatty degeneration or fat-accumulation about the cardiac muscle were recorded. Most of the fatal cases died suddenly, before the operation was begun, from cardio-pulmonary syncope.

EXTERNAL USE OF GUAIACOL

Dr. N. T. Lavrov² has studied the action of guaiacol, employed externally, in pulmonary tuberculosis. The drug was rubbed into the skin and the area covered with a watch glass, the edges being hermetically sealed with adhesive paste. Guaiacol was absorbed under this dressing in from six to twelve hours. The sweat following the application emitted strongly the guaiacol odor. The treatment influenced favorably mild and incipient cases. It is applicable whenever the internal administration of guaiacol is not advisable.

TANNOFORM FOR SWEATING FEET

Dr. Grumme,³ encouraged by numerous favorable reports, has tried tannoform in hyperidrosis pedis. Being in the military service, he had a rich material to experi-

ment upon. Selecting those men who suffered from particularly severe sweating of the feet, the author treated them with pure tannoform, dusting the powder freely into the stockings, which were put on after washing the feet and worn for twenty-four hours. The effect was unexceptionally excellent, the skin, coming in contact with the powder, assumed a brown discoloration and completely ceased to perspire. After some time the discoloration gradually disappeared and after from three to four weeks the sweating recommenced necessitating a new application of tannoform. No untoward results were noticed.

If tannoform is employed "diluted" with talc, the action is less marked and less permanent. The use of the drug in the form of ointments and alkaline solutions gave no results beyond more or less extensive blistering of the skin.

INTESTINAL LAVAGE WITH HYDROGEN PEROXIDE

Dr. Roger¹ employs enemata of hydrogen peroxide in the treatment of dysenteric colitis. Such enemata are well tolerated by the tissues and exert a strong antiseptic action. To neutralize this action somewhat the hydrogen dioxide may be diluted with an equal volume of a solution of sodium bicarbonate (4:1000), or with plain water. Dr. Roger has been very successful with this method, often in cases which had resisted other measures. The treatment is indicated whenever excessive putrefaction is going on in the large intestine. One to three enemata daily may be given. Often two or three a week will suffice.

Very encouraging results have been obtained by this method in muco-membranous colitis. The passage of mucus is facilitated, the tone of the intestinal musculature stimulated, and decomposition prevented.

THE THERAPEUTICS OF IODIPIN

Dr. Karl Holzhauser² reports very good results obtained from iodipin in syphilis. He experimented at the Dermatological Clinic in Strassburg, found the remedy very valuable, and reports the following cases:

I.—Patient contracted syphilis three years ago, and was treated repeatedly with mercurial injections. The appearance of a gumma on the left parietal bone brought him to the clinic. The tumor was the size of a walnut, painless, and showed fluctuation. Potassium iodide was given without any effect. After 5 dr. of the 25-percent. iodipin hypodermically, complete cure was obtained.

II.—A woman with condylomata, ulcerations, and infiltrations of evidently specific nature.

¹ *La Sem. méd.*, XXII, No. 9.

² *Russky Vrach*, 1902, No. 9.

³ *Deut. Militärärztl. Zeit.*, 1901, No. 12.

¹ *Rev. de Thérap.*, LXIX, No. 3.

² *Therap. Monatsh.*, XIV, No. 8.

She received hypodermically $12\frac{1}{2}$ dr. of the 25-per-cent. iodipin, and marked improvement became evident in two weeks.

III.—Patient had had syphilis eight years ago, and was then treated with mercurial inunctions. Had a tubercular syphilide on the right breast. Complete cure brought about with $12\frac{1}{2}$ dr. of 25-per-cent. iodipin subcutaneously.

IV.—Child with hereditary syphilis. Periostitic tuberosities with ulcerations of the ulna, ulcers on the legs, etc. About $3\frac{1}{2}$ oz. of 25-per-cent. iodipin were injected. The tuberosities disappeared rapidly after half the quantity had been taken; the ulcerations healed more slowly. Patient now receives 10-per-cent. iodipin internally.

V.—A hereditary syphilitic, who had undergone mercurial and iodide treatment, presented ulcerated gummata on both thighs. She was given in all 8 oz. of 25-per-cent. iodipin hypodermically. Complete restitution followed, ten days after the last injection.

VI.—Puella publica, with old lues. Showed infiltrations about the anus and vagina, as well as a recto-vaginal fistula. After three injections of about 1 dr. of the 25-per-cent. iodipin, acne appeared in the face, accompanied by headaches. Iodipin was suspended, to be resumed after the acne disappeared. Five new injections brought about the same symptoms, this time with a coryza. Iodipin discontinued.* The infiltrations became considerably smaller. Patient previously showed symptoms of iodism after potassium iodide.

VII.—Patient was infected ten years ago. Was repeatedly treated for lancinating pains and marked ataxia. Both symptoms returned, and became very pronounced. Potassium iodide failed to give relief. Patient was then given at first 1 dr. of the 25-per-cent. iodipin daily, increased to 2 dr. In all 14 injections were given. The pains were gone, she could sleep, use her hands again, and see without spectacles. A transient acne appeared in the face during treatment.

VIII.—Patient had been infected eighteen years before, and had an apoplectic attack seven years after this. Finally, ataxic and paretic symptoms. Four injections of 1 dr. and 16 injections of 2 dr. of the 25-per-cent. iodipin relieved him quickly of his symptoms.

It will be seen that iodipin was used in these cases under circumstances calling for potassium iodide. In secondary syphilis it was not tried. The cases show either complete recovery (Cases I, III, IV, V) or considerable improvement. Iodism was noted in two cases. Most observers, however, have never seen disagreeable effects from the use of iodipin.

The technique of injection is as follows: The 25-per cent. iodipin is warmed before the injection, to make the fluid thinner. The syringe used holds $2\frac{1}{2}$ dr. The injections are made into the skin of the back. The patients did not complain of pain. No infiltrations followed.

The author also cites a case treated by Prof. Koth. A patient with syphilitic defect of the soft palate received 10 per cent. of iodipin by the mouth, in doses of 2 dessertspoonfuls daily; later 25 per cent. iodipin was used. Marked amelioration re-

sulted, and no untoward effects made their appearance.

Thus, iodipin is worthy of further trial in syphilis. It is a welcome substitute for potassium iodide and other iodides, when these prove disappointing. It frequently acts more promptly and more satisfactorily than the iodides.

Prof. Eulenburg,¹ after speaking of the revolution in our knowledge of gonorrheal diseases which followed Neisser's discovery of the gonococcus, proposes a classification of gonorrheal neuroses. In addition to our former knowledge, we have now learned to recognize chorea, neurasthenia, and hysteria of gonorrheal origin, caused indirectly, however, through the accompanying psychic depression. Besides these, gonorrhea is often the direct cause of nervous affections, which may be classified under the following groups: (1) Neuralgia (especially sciatica), due to direct action of the specific principle of gonorrhea; (2) Muscular atrophy or dystrophy and atrophic paralysis; (3) Gonorrheal neuritis and myelitis.

As to treatment, Eulenburg found iodipin of decided value in gonorrheal neuritis. In syphilitic neuroses the same drug is indicated, as well as in neuralgias of doubtful origin, which could often be classed under the head of "venereal neuroses."

Dr. Schuster² has successfully employed iodipin in a case of convulsions in a newborn child of syphilitic parentage. The child, apparently well-developed, was attacked at the age of six weeks with general convulsions, which resisted treatment with bromides, calomel, inunctions of blue ointment, etc. The concomitant fixed pupils and strabismus, together with other cerebral phenomena, pointed to meningitis, most probably of syphilitic origin.

The author advised inunctions of blue ointment, and administered iodipin (10-per-cent.) hypodermically in quantities of $\frac{1}{4}$ to $\frac{1}{2}$ dr. daily or every other day. After the consumption of about $\frac{1}{2}$ oz. of iodipin the child showed considerable improvement.

IN ULCERS OF THE CORNEA

Dr. Galezowski³ recommends:

| | |
|-------------------------|---------------------|
| Iodoform..... | $1\frac{1}{2}$ grn. |
| Cocaine Hydrochlor..... | 1 grn. |
| Petrolatum..... | $2\frac{1}{2}$ dr. |

After the ulcer begins to heal and cicatrize he orders the following ointment:

| | |
|---------------|---------------------|
| Calomel..... | $2\frac{1}{2}$ grn. |
| Dionin..... | 1 grn. |
| Wool-fat..... | $2\frac{1}{4}$ dr. |

¹ *Mass. Med. Jour.*, XXI, No. 3.

² *Wiener med. Presse*, 1901, No. 44.

³ *Rev. de Thérap.*, LXVIII, No. 19.

MERCK'S ARCHIVES

A JOURNAL OF

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FOR THE GENERAL PRACTITIONER

Including a Complete and Unbiased Review of

THE WORLD'S THERAPEUTIC PROGRESS

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ARPIL, 1902

EDITOR'S NOTES

Counter-Prescribing by Druggists in the Middle Ages

OUR readers will be interested to know that counter-prescribing by druggists is not a recent development, but was practiced as early as the fifteenth and sixteenth centuries. In 1566 King Henry II of France issued an edict, punishing with a fine of 50 livres, for each offence, "*les apothicaires oublians que leur estat est de dispensez seulement les ordonnances des medecins, et à toutes adventures ordonnent eux-mêmes et donnent les medecines non cognoissans à quelles maladies sont bonnes ou mauvaises.*" The edict was not very effective, though, and the French physicians have always been bitterly complaining against the practice.

* *

A "Specialist's" Secret Remedy

THE late Prof. Niemeyer, who some half a century ago did much toward popularizing the treatment of anemia with Bland's pills, and the treatment of epilepsy with bromides, related the following story:

He heard that two cases of inveterate epilepsy which he had for years treated without any benefit had been completely cured by a so-called "specialist," whose advertisements were to be found in the columns of almost every newspaper. He investigated the subject more closely and found that in one patient, whose governess had for years kept an accurate journal and whom he had

not lost sight of, the attacks had been absent for several months, and the general health, which had been much impaired, was decidedly better. The "specialist" refused the petitions of numerous persons of limited means to reduce the high prices of his medicine or to give a prescription for it, so Niemeyer had a bottle of it analyzed. The analysis showed that the mixture consisted of a solution of potassium bromide (*3iss-3vi*) colored with indigo. Both patients had taken the remedy in considerable doses. At first only 2 tablespoonfuls were given daily, but after ten days 4, after ten days more 6 tablespoonfuls, after that the dose was increased more slowly, being gradually raised to 10, 15, and 20 tablespoonfuls. So that it appeared that in this case, as in most others where secret remedies prove useful, it was not the remedy but the mode of using it that was the secret.

* *

Prof. Schweninger's Views

PROF. SCHWENINGER, the late Prince Bismarck's medical attendant, is very unpopular with the medical profession of Berlin on account of some of his views on medical subjects. He says that modern medicine is a failure; that students are trained in the science of medicine, whereas they should be trained in the art of medicine; that what we want is not scientists, but men who know how to *cure* their patients; and that a familiarity in the kitchen is more important for the physician than a familiarity in the laboratory. It is true that Prof. Schweninger's contributions to medicine are practically nil, that he obtained his chair only because of the influence of the Iron Chancellor—the medical faculty being unanimously opposed to his appointment; that the number of his auditors is very meager and the hospital of which he is director is all the time half empty; but for all that there is a good grain of truth in his remarks.

* *

The Status of the Salicylates

ARE the salicylates toxic and heart-depressing, or are they not? This has been a vexed question for a long time, because of the diametrically opposite answers given by different observers. Some consider them very toxic, and one physician even declared that more people die from the result of the drug than from the rheumatism and rheumatic endocarditis. Others deny any such toxicity. To the latter class belongs Dr. D. B. Lees, who in a lecture recently delivered before the Harveian Society of London, expressed himself strongly in favor of sodium salicylate. Speaking of the treatment of

rheumatism and rheumatic endocarditis in children, he said:

"In sodium salicylate, in adequate doses, we have a drug which seems to be definitely antagonistic to the rheumatic process. The theory that it merely relieves pain is only possible when adults are the subjects of the disease; in the child it is at once seen to be absurd. The best proof of the genuine efficacy of salicylate in arresting rheumatism, is found in the great tendency to relapse when the drug is being administered in doses which are too small, and especially when it is soon given up. There is a widespread impression that salicylate of soda is depressing to the heart. What is really depressing to the heart is the rheumatic microbe, its works and ways, and some of its pernicious effects have been attributed to the salicylate. Children bear salicylate well, and it rarely causes in them the unpleasant aural symptoms which are common in the adult. It seems to be almost as necessary to a rheumatic child as mercury is to a syphilitic infant, and some children with great tendency to rheumatic relapse ought to take a small quantity of the drug daily for a long time."

* *

The Injection of Drugs Directly Into the Veins

MANY physicians think that the intravenous method of medication is of very recent origin. As a matter of fact, the method was in use in the eighteenth and in the first quarter of the nineteenth century. Then it gradually fell into disuse, giving its place to the hypodermatic method, the latter being more convenient and requiring less care in its use. To Prof. A. Landerer, of Stuttgart, and to Prof. Guido Baccelli, of Rome (now Minister of Agriculture) belongs the credit of having resuscitated and popularized that almost forgotten method: a method which, while having but a limited field of application, is in urgent cases of the highest value.

* *

What Is the Cause of Epilepsy?

WE need not hesitate to confess that the cause of idiopathic epilepsy is still shrouded in the same mystery that it was fifty years ago. Is it due to auto-intoxication? *Quien sabe?* The following case, referred to by Prof. Saundby, seems to point in this direction:

An epileptic patient fell over in a severe fit and burned himself extensively on the buttock, so that for several months he had a large open sore, about six inches in diameter. During that period he was completely free from fits, but when the wound

healed the fits returned. A seton was introduced in order to produce another sore; the result was negative.

Another instance: Pope Pius IX, who was an epileptic, is said to have had an ulcer on the leg, which had to be artificially kept open because the healing of the ulcer was followed by epileptic fits.

* *

Ancient Medical Literature

A WORK of monumental importance and of great interest to medical bibliophiles is soon to be undertaken by the Koenigliche Akademie der Wissenschaften of Berlin, in conjunction with the Danish Academy of Copenhagen. The enterprise consists in making a careful search of all the libraries of the world (Oriental libraries included), and collecting and publishing all manuscripts of antiquity dealing with the subject of medicine in one form or another. We expect some wonderful revelations. The medieval works of the Arabian physicians should prove particularly instructive.

* *

All Dogs Should Be Muzzled

SINCE the muzzling of dogs became compulsory in England, hydrophobia has practically ceased to exist. At first the measure was very unpopular, but its good effects soon became evident. In the Budapest Pasteur Institute 2,093 patients bitten by mad animals were treated in the space of one year. The Hungarian Government has decided to—muzzle the dogs? Oh, no—to build another Institute.

It is not only the fear of rabies that should induce us to demand the muzzling of dogs: the fright produced in children by the barking of unmuzzled dogs and their attempts to bite is extremely injurious. We know of one and have heard of several cases where a dog's attempt to bite produced serious nervous trouble in children and women. In one case an obstinate chorea dated from the moment that a large dog threw down a child and tore its clothes.

* *

Very Original Articles

A MEDICAL journal has a so-called department of original articles, with the following legend as a subhead: "No papers published, or to be published elsewhere as original will be accepted in this department." All of the articles in that department without exception are taken from other journals, some having been printed as long as six and eight months ago. No credit, however, is given. Truly, original articles!

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

Agnew's Hemorrhoidal Solution

Dr. A. L. N. requests an authoritative formula for Dr. Agnew's solution, which he has heard has been used with much success in hemorrhoids.

Dr. Agnew's formula contains carbolic acid, lead acetate, borax and glycerin; the exact composition is as follows:

Lead Acetate,
Sodium Borate, of each.....2 dr.
Glycerin.....1 oz.

Triturate in a mortar or heat gently, to aid solution or let stand for twenty-four hours, occasionally agitating. Then to 6 drams of the above, add the following:

Carbolic Acid (Crystals).....1 oz.
Distilled Water.....2 drams

Of this 5 to 20 drops is injected into the hemorrhoids.

Care must be taken not to inject too much and to avoid an overflow; should an overflow occur, apply some pure alcohol or vinegar at once. In the February issue of the ARCHIVES several formulæ were given for the treatment of piles with carbolic acid.

Directions for Preparing an Emulsion

J. A. C. writes: Will you kindly inform me the correct way to compound the following:

Linseed Oil.....15 oz.
Oil Wintergreen.....2 dr.
Oil Cinnamon.....2 dr.
Dil. Hydrocyanic Acid.....2½ dr.
Glycerin.....5 dr.
Simple Syrup.....10 oz.
Water.....24 oz.
Irish Moss.....½ oz.

As published in the ARCHIVES for March.

We have answered this question once in the ARCHIVES, but for the convenience of our new subscribers we will repeat the answer: Rinse the Irish moss with a little cold water, so as to remove the impurities; then put it in a suitable dish; add the 24 oz. of water and bring to a boil (preferably on a water bath), allowing it to boil for fifteen minutes, stirring frequently. Then strain through muslin, adding through the strainer enough water to make the strained liquid measure 24 oz. This thick mucilage is then put in a mortar, and the oil is gradually added with constant stirring until thoroughly emulsified. The syrup is added next, and then the other ingredients. Instead of a mortar, the whole process can be performed in a large bottle, which is to be

shaken well after each addition of the oil. When working with large quantities, the process is performed much more easily and rapidly in one of the special emulsifiers. If a very thick emulsion is desired, 6 dr. of Irish moss may be taken instead of 4 dr.

Formula and Uses of Trunecek's Serum.

Dr. J. A. B. asks for full information regarding the above serum. He saw it referred to in a journal, but, as happens only too frequently, without sufficient detail to instruct one in its use.

The formula of Trunecek's serum is:

Sodium Sulphate.....0.44 Gm.
Sodium Chloride.....4.92 Gm.
Sodium Phosphate.....0.15 Gm.
Sodium Carbonate.....0.21 Gm.
Potassium Sulphate.....0.40 Gm.
Distilled Water, to make...100.00 Gm.

This solution contains all the alkaline salts which exist in the normal blood and in the proper proportions, but in *tenfold* strength. To make it like the normal serum, it would have to be diluted with 9 times its weight of distilled water. The solution must, of course, be perfectly sterile.

The serum is beneficial in general arterio-sclerosis, in cardiac sclerosis, in cerebral arterio-sclerosis, in sclerotic otitis, in congestive headaches, in chronic prostatitis, in chronic rheumatism, etc.

Trunecek injects 1 Cc. (15 min.) of the concentrated solution every four to seven days, gradually increasing by 0.1 to 0.5 Cc. Others start with 2 Cc. (30 min.) and increase by 1 Cc. every two days until 5 Cc., or even 7 Cc., is reached.

To Obviate the Mydriasis Produced by the Internal Administration of Atropine

Dr. T. W. Taft, of Philadelphia, writes: Referring to the question of Dr. H. C. B. in Queries and Answers, March ARCHIVES, relative to an agent that will counteract the mydriatic effect of atropine used internally in cases of cold, I suggest:

Eserine Salicylate.....1/24 grn.
Aqueæ Destil.....3 ij

M. Sig.—Instill 1 or 2 drops into each eye once, twice or thrice daily, according to effect desired. This will neutralize the mydriatic, and, what is more important, the cycloplegic effect of the atropine. In some cases a weaker solution may be sufficient, depending upon individual susceptibility and the amount of atropine administered.

Chronic Prostatitis

Dr. J. B. C. asks for an effective treatment of this obstinate affection. The remedies as ordinarily recommended have not given him very good satisfaction.

A recent writer thus outlines the treatment: Rest, abstention from sexual intercourse, treatment of any diathetic condition and improvement of the general health are necessary prerequisites. The bowels must

be kept free, but aloes or other agents which increase pelvic congestion are not to be used. Calomel, the salines, and glycerin suppositories are advisable. Taken internally, eucalyptus and the balsams have a good stimulant and healing local effect. Methylene blue in 2-grain doses twice a day is a good antiseptic, and its moral effect is decided on account of the intense coloration of the urine. Ergot and cimicifuga, alone or together, lessen the congestion of the prostate. It may be necessary to resort to some method of relieving stricture. Dilatation, the dilator, cutting or electrolysis are employed, but none of these is to be used during an acute stage. The author approves of the dilator and condemns the cutting operation, but thinks electrolysis the best of all. Massage is useful but must not be employed during acute exacerbations. Hot irrigations of the bladder with antiseptic solutions, potassium permanganate by preference, are also recommended, as are hot rectal irrigations. Medicinal agents may be applied directly to the prostatic urethra. Useful instillations are silver nitrate, protargol, bichloride of mercury, and zinc chloride. Ointments or oleates containing silver nitrate (5 to 20 grn. to the oz.) or other antiseptics are also useful. The gelatin bougies are good. He especially recommends ichthyol and iodoform as relievers of pain and reducers of congestion. Opium and belladonna may be added if necessary. The following is the formula recommended:

Iodoform.....2 to 4 drams
Ichthyol.....2 to 4 drams
Ext. Opium.....12 grn.
Ext. Belladonna.....3 grn.

Make 12 suppositories. Insert into the rectum as often as may be needed to relieve pain.

Hoff's Anesthetic in Dentistry

J. B. R. asks for the composition of Hoff's formula for a local anesthetic in dentistry.

Hoff's formula consists of:

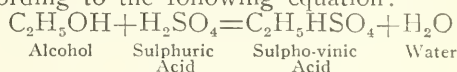
Cocaine Hydrochlor..... ½ grn.
Morphine Sulphate..... ⅞ grn.
Atropine Sulphate..... ⅛ grn.

Generally used hypodermically. The combination is made up in tablet form.

Elixir Acidi Halleri

C. M. B.—“Acidum Halleri,” or more commonly called “Elixir Acidi Halleri,” is a mixture of sulphuric acid and alcohol—1 part of the former to 4 parts of the latter, by weight. The aromatic sulphuric acid of the United States Pharmacopœia is practically the same thing, except that it contains a little

tincture of ginger and oil of cinnamon. This is very frequently dispensed in this country when “Elixir Acidi Halleri” is prescribed. In this preparation some ethylsulphuric or sulpho-vinic acid is formed, according to the following equation:



Aural Anesthetics in Operations on the Drum Membrane and Tympanum

Dr. J. B. N. asks us to furnish him with a reliable local anesthetic in operations on the ear.

As is well known, a simple aqueous solution of cocaine has no effect on the drum membrane. The following have been recommended by their respective introducers:

Cocaine Hydrochlorate.....24 to 30 grn.
Distilled Water,
Glycerin, Sterilized, of each.....2½ dr.
Dissolve, and add:
Absolute Alcohol.....2½ dr.
(Haug.)
Cocaine Hydrochlorate.....8 grn.
Aniline,
Absolute Alcohol, of each.....So grn.
(Gray.)
Carbolic Acid, Liquefied.....5 grn.
Cocaine Hydrochlorate,
Menthol, of each.....15 grn.
Alcohol.....75 min.

The head being inclined towards the opposite side, the solution is dropped into the ear and allowed to remain there for about five minutes.
(Hecht.)

Formula for a Laxative for Infants

Dr. W. F. writes: I have been a subscriber for your journal for some time, and this is the first time I have troubled you for information. Can you give me a formula for a mild liquid laxative for infants, one that will yield a preparation which will work nicely without griping the baby's bowels?

The following makes a very satisfactory combination:

Fld. Ext. Wormseed.....1½ fl. oz.
Fld. Ext. Pumpkin Seed.....1 fl. oz.
Fld. Ext. Senna.....1 fl. oz.
Fld. Ext. Rhubarb.....2 fl. dr.
Potassium Carbonate.....60 grn.
Rochelle Salts.....720 grn.
Oil Peppermint.....1 drop
Oil Anise.....2 drops
Oil Wintergreen.....5 drops
Alcohol.....1 fl. oz.
Sugar.....11 av. oz.
Water.....enough to make 16 fl. oz.

Mix the fluid extracts of wormseed and pumpkin seed with 4½ fl. oz. of water, clarify by filtering through purified talcum, and add enough water through the filter to make filtrate measure 7 fl. oz. To this add the sugar, Rochelle salts, and potassium carbonate, dissolve by the aid of gentle heat, add the fluid extracts of senna and rhubarb, and the oils dissolved in the alcohol, and finally enough water, if necessary, to make 16 fl. oz.

As said before, we do not consider it a trouble, but a pleasure, to give information to our readers.

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

Case of Ague Cured by the Sulphate of Quinine.—John L., of Peterborough, age 32, was admitted into George's ward of this (St. Thomas) hospital, Feb. 5th, with ague; says that for a fortnight previous to his admission he had been seized with a fit of shivering every second day, about eleven o'clock in the morning, which continued on him for about four hours. The patient was immediately ordered by Dr. Elliotson, under whose care he is, three grains of sulphate of quinine every six hours, dissolved in water, with a minim of diluted sulphuric acid. Since he has taken this medicine, the shivering fit has not returned. Last year this same man had an attack of ague, which continued on him for four months.—*The Lancet* (Feb. 15, 1824).

Local Treatment in the Upper Air Passages.—There are certain regions of the body which for no obvious reason are frequent battle grounds for controversialists. It is mostly one of the natural orifices of the body that is the center of disturbance, and the conflict, as a rule, rages the more fiercely the narrower the field in which it is fought. Within the past few months several illustrations of this general proposition have been given in the *British Medical Journal*. Whether these controversies tend on the whole to edification may perhaps be doubted; but until philosophy has softened the manners of men, they must be looked upon as regrettable incidents in the victorious march to the conquest of truth. The light of science may be "dry," but there is too often an undue proportion of heat rays in its composition. Hence scientific men as a class are, like poets, a genus irritabile, apt to regard anything in the nature of criticism or contradiction as a crime calling for the vengeance of heaven on the offender. Their outbursts of wrath are, however, merely "nerve discharges," and must not be taken too seriously. Debate is the crucible which tests ideas offered as new truths. But when a controversy sinks from the criticism of facts and opinions to purely personal matters, it ceases to be instructive or interesting, and the time for applying the closure has arrived. In the controversy on the principles of local treatment in the upper air passages which has recently been going on the *British Medical Journal* furious Frank and fiery Hun have shouted in their sulphurous canopy, and many "swashing blows" have been exchanged. But the battle has unquestionably made for righteousness. In the concluding letter published in the *Journal*, Sir Felix Semon sums up the result of the discussion, and we think he may fairly be congratulated on having rendered a real service not only to medicine but to the medical profession. There has been no serious attempt to dispute the principles enunciated in his lectures or to defend the abuses of local treatment to which he pointed. There is, indeed, ample evidence to show that his plain speaking has already done much good, and the public opinion of the profession which he has helped to form may be trusted to place an effective check on operative intemperance in the future. The Alexanders of rhinology who have been the principal offenders in this direction, and who, not content with their own chosen province, have invaded the throat and ear and shown a

disposition to annex more distant territories, will, it may be hoped, learn to repress their lust of conquest within proper limits. They may also cease to see all things in the nose as the philosopher Malebranche saw everything in God. A man of one idea is always apt to be led away into excess, and if his idea takes the form of an irresistible impulse to make every nose which he sees "physiologically adequate," he may become a danger to those who come under his hands. Had Sir Felix Semon done nothing more than expose the abuses into which the concentration of the mind on one point may lead a perfectly honest practitioner, he would have deserved the thanks of the profession. But he has done much more than this. He has uttered a powerful note of warning against the gravest danger which besets specialism: that of severance from the trunk of the great tree of medicine of which all specialties are branches. In this age of ever increasing specialization it cannot be too frequently or too emphatically repeated that, if the branch is to retain its vitality unimpaired, it must keep itself in the most intimate organic union with the parent stem. Isolation from the great body of their profession tends to foster in specialists absurdities such as those which have been referred to; while, on the other hand, medicine loses many facts and observations which, gathered into the sum of knowledge and grouped in their proper relationship with the results of workers in other fields, would be of priceless value. Specialism divorced from general medicine is barren or produces monstrosities; united thereto, it is the fruitful parent of progress. We hope Sir Felix Semon's warning will be taken to heart, for as the facts set forth in his lecture show, we are in some danger of retrograding to the system of unlimited and independent specialization which darkened medical counsel in ancient Egypt.—*British Medical Journal*.

The Endowment of Medical Teaching.

The writer has always advocated the liberal endowment of medical teaching, being fully convinced that while in the practical branches of the medical curriculum the teacher must have means for active application and direct observation, and as a basis upon which to build his instruction—clinical teaching—he should at the same time be relieved from the absolute necessity of "turning an honest dollar" upon every and all occasions, for in the pursuit of the dollar there enters the strong spirit of commercialism, the mighty unrest caused by competition, and, therefore, to no small degree the destruction of an analytical temperament, the disruption of that smooth, logical, painstaking, deeply-thoughtful state of mind recognized as essential to the ripened scholar, and therefore to the learned teacher.

It is simply impossible for one to be a thorough teacher of eagerly-seeking medical students, and at the same time a money-getting practitioner either of the successful or unsuccessful type. An instructor must be such in the full sense of the term, and it is nonsense to expect him to be a bright light, an original worker and a profound student when he is forced, even to provide plain sustenance for himself and family, to get out into the market place, so to speak, and run in the competitive race for dollars with the high and the low for half the number of hours of every day. How much of a student can such a person be? How much original laboratory work is it supposed such a teacher (?) can carry on? How much thinking out of abstruse problems

can one so situated carry along? What sort of teaching is it possible for such a man to give?

We do not believe it can be reasonably questioned that the present, in many respects, unsatisfactory condition of affairs in the medical profession rests upon the secondary, indefinite, unbuttressed sort of instruction almost every student in this country has been compelled to take, for there are very few institutions that in the past have been either able or willing to pay for medical teachers.

When the medical school can go out into the teachers' market with its three, five or ten thousand dollars a year salary proposition, demanding in return very high requirements, the consecration of the whole mind, time and attention of the proposed instructor of that school's clientele, then, and then only, as in all other resorts of learning the world over, will there rise up the highest type of a guide, leader and mentor for students' minds.—*Clinical Review.*

Crabbed Age and Youth.—There lies before us a somewhat typical letter, written from a fashionable watering place a hundred years ago by an octogenarian clergyman, whose years alone had seemed to him to furnish an adequate reason for resigning his living and for awaiting his end in absolute tranquility. "This place," he writes, "is very full, and here are innumerable characters as well as faces, affording abundant opportunity for amusement, satire, and ridicule. I hear and see much, but say little; am struck with observing the indiscretion of the young, and the juvenile affectation of the old." There is here a sort of aloofness from surrounding interests, an indifference to prevailing topics of thought or of conversation, an assumption of the position of the merely contemplative observer, which we should hardly find paralleled in our own day. And yet the writer, like the "old man" in Jean Ingelow's charming poem, was one "whose story did not shame him," and whose life had been full and vigorous enough in what he conceived to be its day. The way in which we now differ from him is chiefly in respect of his ungrudging acceptance of the view that the evening of that day had come. The octogenarians now with us are largely continuing in the pursuits to which their lives have been devoted, or have exchanged these pursuits for others perhaps equally engrossing. They are expected to confer upon mankind the results of their long experience, or to temper the counsels of youth or middle age by the maturity of their wisdom.

And so, if old age in this our day is called upon still to keep its lamp burning, and its loins girded it must surely evoke all possible aid from physiology for the attainment of a full knowledge of the differences which distinguish it from youth, and of the ways in which its life should be so ordered as to conduce to the attainment of the ends desired. Sir Henry Thompson has instructed us concerning feeding; and the recently published memoir of Sir James Paget tells us something with regard to sleep. Possibly, said Sir James, referring to one of the proverbs more familiar to the last generation than to the present, six hours' sleep may be enough for a fool, but a man wants eight. But the sleep necessary for the aged can seldom be taken, as may that of the young, during only one period of the twenty-four hours; and, like their meals, should be more divided than was at one time either necessary or desirable. An old man can but seldom sleep all night. "He shall rise up," says the Preacher, "at the voice of the bird;" and it is clear that he may

prudently devote what Longfellow described as "the children's hour" to obtaining the refreshment of another instalment of Nature's sweet restorer.

Sir Andrew Clark was accustomed to define old age as the period of life at which a man no longer adjusted himself to his environment; and to illustrate the definition by saying that he regarded as old a doctor who expressed himself contumeliously with regard to microbes, or who, like one of his own contemporaries, spoke of the tubercle bacilli as "lung-bugs." Perhaps, as regards action, the sum of practical wisdom in the matter may be reached by Sir James Paget's admonition that the old man must not only say of his intentions "I will," but "I will *now*," in recognition that the limit of his activities in time is approaching, and that none can say how much of any work that he defers it may ever be within his power to accomplish.—*The Hospital.*

Bovine and Human Tuberculosis.—In view of the recent controversy regarding the transmissibility of bovine tuberculosis to man, the following report by Mazyck P. Ravenel (before the Pathological Society of Philadelphia), will be of interest. This is the fourth case of similar character reported by him.

On July 27, 1901, Dr. G., while performing autopsies on two cows which were the subjects of experimental tuberculosis, wounded the flexor surface of his wrist slightly. Beyond washing thoroughly in water no treatment was adopted, the wound healed promptly and nothing further was thought of the circumstance until some four weeks later when the scar was seen to be red, prominent and somewhat sensitive. It increased in size quite rapidly and by September 10 there was a nodule in the skin 15 Mm. long by 8 Mm. in width. On September 14 excision was practised by Dr. Holloway. With a portion of the nodule two guinea-pigs were inoculated subcutaneously, both of which developed generalized tuberculosis. One of them was presented for the inspection of the society, the other showing lesions practically identical. Another portion of the nodule was prepared for microscopic examination. Sections stained with hematoxylin and eosin show a round cell infiltration with a large area of necrosis in the centre. Toward the borders of this area are seen numerous giant cells having the nuclei arranged in wreath-like form. The entire process is confined almost wholly to the reticular layer of the corium. In sections stained with carbol-fuchsin an unusually large number of tubercle bacilli are seen, as many as eight being counted in a single field, which is a rare occurrence in tuberculosis of the skin.

The notable features of this case are the rapidity of the growth of the nodule, indicating marked virulence of the infecting organism, and the large number of giant cells and tubercle bacilli seen in the sections. Up to the present time there has been no return of the growth.

Such cases as these do not settle the entire question of the transmissibility of bovine tuberculosis to man, but they prove most conclusively that the bovine germ finds soil and conditions in the tissues of man suitable for its multiplication, and that it produces in man its typical effects, notwithstanding the well-established fact that the skin is by no means a favorable tissue for its development.

In the solution of the problems presented in the relation of bovine and human tuberculosis, patient clinical observation must play a large part, and the report of this case is offered as a contribution to this end.

Correspondence

AND BRIEF CLINICAL REPORTS

Drug Addictions and Drug Addiction Cures—How the Unfortunate Are Victimized

Editor MERCK'S ARCHIVES:

Any one who examines the advertising columns of almost any one of the popular magazines or newspapers, will stand appalled at the condition of things which certain of the more pretentious advertisements disclose. We refer to the various plausibly written ads. exploiting various drug-addiction cures and dipsomania or alcoholic-addiction antidotes. To those who have made a study of these baneful diseases, for diseases they finally become, and who know the inside history of most of the so-called cures, the subject is one of melancholy interest. The writer, who has been a student within the field covered by these subjects for twenty years past, and who has made some of the investigations into the various so-called cures which have been made public during that time, is in a position to speak with some authority, and believes that some information on the subject will be of public interest and value.

Some fifteen years ago a Russian medical man, attached to the army service, published the results of his researches, which gained for him a prize from the Russian government, to whom the results of hard drinking had been a serious problem for some years. Officers stationed on frontier posts, in the long Siberian winters sought some means of "killing time," and cards and vodka offered attractions which finally caused deplorable results. The government offered inducements to its medical attachées to endeavor to formulate some line of treatment for these alcoholic cases which would be a success, and Dr. Dobronravoff finally gave to the medical profession the results of his study and experimental work. His statements were given wide publicity in the medical journals of all countries, and at length, as might have been expected, a shrewd but obscure American built upon Dobronravoff's discovery, by the addition of a dazzlingly named ingredient, a great business, which made him and others rich, and which is still in existence, bidding for public favor. Nitrate of strychnine was the drug used by the Russian, and the American added gold (in name at least), atropine, and one or two other ingredients to the wonderful "cure." The success which followed the exploitation of the "gold cure" for liquor encouraged many to use the same or similar means in the treatment of morphinomania and other drug addictions, and a host of these concerns has arisen since that time. The formula used by practically all these concerns is about as follows: Nitrate of strychnine, hyoscine hydrobromate, and codeine. The latter is used as a substitute for the morphine, as it is gradually withdrawn, until nothing but codeine is used to back up the strychnine and hyoscine. Codeine creates no euphoria, and can be rapidly withdrawn without the danger of collapse, which ensues if morphine be suddenly or swiftly taken away. The concerns which claim to "painlessly cure" these addictions, gradually withdraw the morphine or opium, keeping the patient supplied with their "antidote," until the time comes for the final withdrawal. When that time *does* come, in most cases, the patient finds that he cannot endure the discomfort and agony which super-

vene, and the "society" or "league" or "company" which conducts the treatment sends their auxiliary "tonic," or "elixir," or "antidote," and informs the patient that he will need to use that for a while until his system completely recuperates. The patients think it better to do this than to go back to their former indulgence in pure morphine or opium, as it seems as if they were better in health than when using it, which is probably true, though they little know that they are still getting a regular amount of the drug re-enforced by codeine or one of the other opium alkaloids. If the reader will pause and consider the matter for a moment, he will realize what a revenue these concerns must gain from the thousands of people who *must* have their antidote right along, month after month, and year after year, or else return to the crude drug as in days gone by. Thus it can be seen what a source of continued revenue these concerns have! That new ones are springing up every few months would seem to prove that the indulgence in these drugs must be widespread, and the evil one that menaces society at large in no small degree. Physicians are to blame for much of this state of things, and we believe that they are, as a profession, beginning to use more care in the prescribing of such drugs.

Rondout, N. Y.

A. W. JACKSON, M.D.

Stricture of the Esophagus

Editor MERCK'S ARCHIVES:

J. N. E., a carpenter, sixty-two years of age, first consulted me on December 14, 1898, for a stricture of the esophagus, caused by drinking some ammonia water by mistake, in the middle of August. At the time of the accident he received medical attention, but as there was no effort made to keep his esophagus open, it grew together, until he was unable to drink milk enough to sustain life much longer. He had lost flesh rapidly in the last month, and was in a very weakened condition.

When I first saw him it took forty-five seconds for a mouthful of water to run down his throat, as I "timed him." It took me more than four hours on two different occasions, using a little force, to pass a No. 6 "American scale" soft-rubber catheter, into which I passed a steel wire having a slight curve. After I passed this several times, and had become somewhat familiar with the very tortuous passage, I attempted to pass the smallest esophageal bougie on the market, but was unsuccessful. I could not recommend an operation, owing to his weakened condition. I therefore directed my patient to make several lead bougies, the tip of the smallest one to be about the same size as that of the rubber catheter which I had used, and to make an enlargement about 1½ inches from the tip, this enlargement to begin gradually, and to end in the same manner, and to be about ¼ inch in diameter in the widest point. He made six of these, varying in size from the one I have just described, to one about 7⁄8 inch in diameter. They were about 18 inches in length, with a slight curve.

These I passed each day, gradually increasing the size until I succeeded in passing the largest one. This I continued to pass every second day for a while, then every third day, gradually lengthening the time until his throat had thoroughly healed. He was then able to take food as well as before the accident occurred.

The upper and middle third of the esophagus were the portions affected, and the extreme tor-

sion and smallness of the passage, the hardened condition of the strictures, the age of my patient, his half-starved condition, the home-made instruments, and, normally, the soft condition of the esophagus—made this a very difficult case—but, I am happy to say, a successful one.

I think this method of dilatation should be tried in all cases before resorting to an operation.

G. M. BAILEY.

Providence, R. I.

Active Principles

Editor MERCK'S ARCHIVES:

Will you please publish what you think of the active principles of drugs, leaving out views accepted by the profession. I want to know what the ARCHIVES thinks. To illustrate active principles: In a case of broncho-pneumonia, seventy years old, counsel ordered phenacetin. Gave it in antipyretic doses. No results, except great stupor. Something must be done, so I gave grn. $\frac{1}{134}$ aconitine; gr. $\frac{1}{67}$ digitalin; gr. $\frac{1}{67}$ strychn.-arsenate dissolved in water, every fifteen minutes till fever began to fall, then every hour till temperature reached 100° F.; then held it there. The above had a very happy effect, and I believe saved the old lady's life. The counsel did not know that I had discontinued the phenacetin and substituted. In all my two years' practice I never had fever reduced by any of the coal-tar derivatives without bad effects, though I used caffeine and soda. I began using tincture of aconite root and sweet spirit of niter with children, and by studying the effects, and in some cases guarding the heart and stimulating the kidneys, have always had the pyrexia reduced and the diseased condition bettered. Sometimes I use tinct. verat. viride instead of strychnine. I have cut short more than one case of pneumonia. It can be done if seen in the first stage, and benefited in the second.

I beg your pardon for writing so long a letter, but knowing your journal to be broad-minded, I want your opinion.

F. M. JEFFERS, M.D.

Lafayette, Ind.

[There can hardly be two opinions on the subject of the active principles of drugs. When properly and scientifically extracted they represent the therapeutic virtues of the drug in a convenient, palatable form. Of course, not all drugs have had their active principles determined or isolated. Concerning the coal-tar products, there are many physicians who utterly condemn their use for the purpose of producing antipyresis.—Ed.]

Results of the Treatment of Pneumonia with Creosote or Creosote Carbonate

Editor MERCK'S ARCHIVES:

In order to prepare a statistical table showing the results of the treatment of pneumonia with creosote or creosote carbonate, I ask the aid of the profession.

Let every physician who has given the treatment a trial send me on a postal card during April, 1902, the number of cases treated, and number of deaths. State whether of record or an approximation.

Please answer yes or no to these questions.

1. Do you believe creosote ever aborts pneumonia?

2. Do you believe the majority of cases are mitigated by it?

3. Have you found cases, which having plenty of time, were entirely uninfluenced by it?

To every one favoring me with a report, I

promise to mail a copy of the condensation of reports. If the remedy is what some of us think, the world ought to know it. If we are deceived we ought to be undeceived. Therefore send on the reports. Fraternally,

Fort Worth, Texas.

I. L. VAN ZANDT, M.D.

Contributions Asked for Pathologic Exhibit

Editor MERCK'S ARCHIVES:

The Committee on Pathologic Exhibit of the American Medical Association is anxious to secure materials for the coming session at Saratoga Springs, N. Y., June 10 to 13 inclusive. This exhibit was accorded much praise and comment during the sessions at Atlantic City and St. Paul respectively, where were collected valuable exhibits from all parts of the country. The materials included not only pathologic specimens, but the allied fields, bacteriology, hematology, physiology, and biology were well represented.

It would also be desirable to secure exhibits of new apparatus, charts, etc., used by teachers of pathology and physiology in medical colleges.

This exhibit has already become a permanent feature of the annual sessions of the American Medical Association, and the committee is desirous of securing its list of exhibits as early as possible, and to this end asks those having desirable materials to communicate with any member of the committee. To contribute to the value of the work, it is suggested that as far as possible each contributor select materials illustrative of one classification, and by such specialization enhance the usefulness of the display. Those lending their materials may feel assured that good care will be given their exhibits while in the hands of the committee, and due credit will be given in the published reports.

Very respectfully,

F. M. JEFFRIES,

214 East 34th St., N. Y. City.

W. A. EVANS,

103 State St., Suite 1,403, Chicago, Ill.

ROGER G. PERKINS,

West. Res. Med. School, Cleveland, O.
Committee on Pathologic Exhibit, American Medical Association.

Stypticin in Uterine Hemorrhages

Editor MERCK'S ARCHIVES:

The following cases may prove of interest:

Case I.—Flooding at the menopause, which yielded instantly to stypticin.

Case II.—Dangerous uterine hemorrhage in old lady, aged eighty-two. Cause, undetermined; ergot had very little, if any, effect, and as hemorrhage was profuse I naturally felt quite uneasy, my patient having neither youth nor strength on her side. I prescribed stypticin. There was a decrease in flow after first tablet had been taken; hemorrhage had ceased altogether after fifth or sixth. Gave tablets, one every three hours. Permitted her to leave her bed after fourth day. There has been no return so far.

Case III.—Young married lady; excessive flowing at menstrual periods, so much that she would be compelled to go to bed. In a short time, not only towels, but gown, bed-clothing, etc., would be saturated; had had local and constitutional treatment without benefit. Prescribed stypticin tablets, and told her to commence taking them at the time her flow commenced. Did not have sufficient to give her to take a few days previous, as I would have liked, but her flow was almost normal. Case still under treatment.

Yemassee, S. C.

E. C. B. MOLE, M.D.,

Book Reviews

DISEASES OF THE INTESTINES. Their Special Pathology, Diagnosis, and Treatment, with sections on anatomy and physiology, microscopic and chemic examination of the intestinal contents, secretions, feces, and urine; intestinal bacteria and parasites; surgery of the intestines; dietetics; diseases of the rectum, etc. By John C. Hemmeter, M.D., Philos. D., professor in the Medical Department of the University of Maryland. In the December issue of the *ARCHIVES* we reviewed the first volume of Hemmeter's *Diseases of the Intestines*. The second and last volume, now before us, treats in a most exhaustive manner of the following conditions: Appendicitis, tuberculosis, syphilis, actinomycosis of intestine, the occlusions, contusions, rupture, enterorrhagia, intestinal surgery, atrophy, abnormalities of form and position, thrombosis, embolism, amyloidosis, neuroses of the intestines, intestinal parasites, diseases of rectum. There is no question that this is the most exhaustive work on the subject extant, and it is also the best. As Prof. Boas said of the same author's "*Diseases of the Stomach*," we can say, "The best contemporary treatise on diseases of the intestines which we possess, not only in America, but in the whole world." As there is nothing perfect in this world, however, we note in this volume a very important omission—we could find no reference whatsoever to the treatment of intestinal obstruction by large doses of atropine, a method introduced by Batsch about two years ago, and followed since by a large number of physicians and surgeons. Numerous favorable reports on the method appeared in the *Münchener medicinische Wochenschrift* and other journals, but there is no mention of it in this book—the more remarkable because the author's wide erudition is well-known, and his knowledge of the English, German, and French periodical literature is really astonishing. The illustrations, printing and paper are excellent. (P. Blakiston's Son & Co., Philadelphia. Price, net, \$5. Set complete, \$10.)

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1902. A yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, drawn from journals, monographs, text-books, etc. Arranged under the editorial charge of George M. Gould, A.M., M.D. The plan of issuing the American Year-Book in two volumes—one on medicine and one on surgery—inaugurated two years ago, has been followed this year, and will be followed in all future editions. The practitioner who is not interested in the advances of surgery can thus buy the medical volume only, and, *vice versa*, the surgeon need not buy the volume on medicine. Speaking of the intrinsic value of the volumes, we can repeat what we said in our review last year—they need no further introduction. The data are not simply piled on haphazard, but are critically selected and critically commented upon. The contributors to the present volume are: Alfred Stengel, general medicine; Louis Starr, pediatrics; David Riesman and A. O. J. Kelly, pathology and bacteriology; Archibald Church, nervous and mental diseases; L. A. Duhring and M. B. Hartzell, cutaneous diseases and syphilis; R. W. Wilcox and A. A. Stevens, materia medica and therapeutics; G. N. Stewart, physiology; Wyatt Johnson, legal medicine; S. W. Abbott, sanitation and preventive medi-

cine, and Walter Jones and Reid Hunt, physiologic chemistry. (W. B. Saunders & Co., Philadelphia. Per volume: Cloth, \$3 net; half Morocco, 3.75 net.)

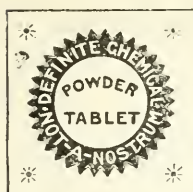
THE INTERNATIONAL MEDICAL ANNUAL has entered on the twentieth year of its existence, the twentieth volume being now before us. It preserves the same features as the former volumes and may be recommended as a fair résumé of the year's progress in medicine. The book would probably be of more interest to American physicians if it counted more Americans among its contributors. As it is, the English contributors devote considerable space to subjects which are of but moderate interest to the American reader; as instances may be cited the arsenical poisoning epidemic in England and the colony treatment of epilepsy in that country. Some of the subjects are treated quite meagerly, with but a scant utilization of the year's literature on the subject, but this may be due to the fact that the book had to be kept within certain limits. Many illustrations in black and in color serve to elucidate the text. (E. B. Treat & Co., 241 West Twenty-third street, New York. Price, \$3.)

PROGRESSIVE MEDICINE: A quarterly digest of advances and improvements in the medical and surgical sciences. Edited by Hobart A. Hare and H. R. M. Landis. We but recently reviewed *Progressive Medicine* for 1901. The first volume for 1902 has just reached us. It is fully up to the level of the previous volumes. The contributors are: Charles H. Frazier, surgery of the head, neck, and chest; F. A. Packard, infectious diseases; Floyd M. Crandall, diseases of children; Ludvig Hecloen, pathology; St. Clair Thomson, laryngology and rhinology; R. L. Randolph, otology. (Lea Brothers & Co., Philadelphia and New York. Price, \$2.50 a vol.)

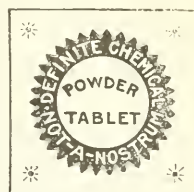
MANUAL OF CHILD-BED NURSING, WITH NOTES ON INFANT FEEDING. By Prof. Charles Jewett, A.M., M.D. This small manual was originally prepared for the use of nurses, and was subsequently rewritten and adapted to general use. The booklet is written in a popular style, and while professional nurses will hardly derive much benefit from it, lay mothers or those about to become mothers will find it instructive. (E. B. Treat & Co., New York. Price, 80c.)

TEXT-BOOK OF ANATOMY AND PHYSIOLOGY FOR NURSES. By Diana C. Kimber. This is an able and well-digested compilation of the salient facts in anatomy and physiology. The work is really the second edition of a volume which appeared about seven years ago, but so much in it has been recast and rewritten that it may be regarded as a new book. The chapter on the Nervous System has been almost entirely reshaped by Dr. Percy M. Dawson, assistant professor of physiology at Johns Hopkins University. The book well answers the purpose for which it is intended. The numerous illustrations taken from standard text-books and publications are well executed. (The Macmillan Company, New York. Cloth, 276 pages. Price, \$2.50.)

COMPEND OF GENERAL PATHOLOGY. By Alfred Edward Thayer, M.D. This is a short treatise on general pathology, and while it constitutes one of Blakiston's quiz compends, we are glad to see that the matter is not arranged in the form of questions and answers. It contains 78 illustrations, several of which are in colors. (P. Blakiston's Son & Co., Philadelphia. Price, 80c.)



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Miscellany

Now instructive, now amusing—but always interesting and worth reading

GRANDMA AND THE BABY.—

Oh, these doctors and these nurses that they have around to-day!

I'd send them all to Bungy if I only had my way.

"You mustn't toss the baby!" and you've got to let it cry

If it happens to get hungry 'fore three hours have went by.

They make a lot of rules, and if you break one there's a row,

And grandma's little precious, hpw they do abooze it now!

You mustn't walk the floor! Oh, my! That's just a dreadful thing!

And when you put the child to sleep you mustn't rock nor sing!

They want to raise a baby just like you add or multiply,

By stickin' to their pesky rules—there now, just hear it cry!

They chase me from the room—they say I'm spoilin' it, the fools—

I'm goin' to rock it, though, in spite of all their rules!

This doctor's just a boy, that's all—he can't raise whiskers yet!

He isn't more than thirty-five or thirty-six, I bet!

And look at that young nurse! My sakes! what right has such as she

To come around here layin' down her foolish rules to me?

She's never had a baby, yet she tells me what to do—

Why I had seven children, and we raised the seven, too!

I think it's downright cruel the way people act to-day;

They don't deserve their babies, that's just all I've got to say.

You mustn't walk the floor, you mustn't rock, you mustn't sing,

You mustn't feed them when they cry, you mustn't anything!

But let 'em make their foolish rules; we'll break 'em, won't we, dear?

Great mercy! There's the nurse got back! She mustn't find me here!

—*Chicago Medical Times.*

TO READ YOUR OWN CHARACTER.—The eye is a very expressive organ. Take first its form:

Large eyes in a small face usually indicate a spiteful, vindictive nature.

Fulness below the eyes is an invariable token of the gift of ready, fluent speech.

Oblique eyes generally go with untruthfulness and want of principle.

Eyes that are half-closed indicate innate shrewdness, and oftentimes insincerity.

Slow-moving eyes are generally tokens of forethought and business ability; their owners are usually economical, but not to the point of avarice.

Eyes that reveal the whole of the pupil show a fickle impulsive temperament, with some indecision of character.

When the eyebrows are regularly arched and dark and heavy, it is an indication of sound judgment.

Eyes which show a circle of pure white round the pupil belong to persons of sterling character and blameless life.

Black, sparkling eyes are generally united with good taste, refinement, penetration.

Large, clear, blue eyes indicate activity and versatility of mind.

Dull blue eyes, especially when they are small, and retreat far back beneath the brows, are signs of a frigid, self-contained, suspicious nature.

Small black eyes, beneath heavy brows, are usually associated with shrewdness.

Gray eyes betoken a prudent and reserved person.

Full, clear blue eyes generally accompany a bright, vivacious, ardent temperament.

Brown eyes are an invariable index to an amiable, lovable disposition.

When wrinkles are seen constantly on the sides of the nasal organ, its owner is of a grasping, avaricious nature.

A nose whose point turns skywards is often a sign of a tyrannical and coercive disposition.

Large noses are usually associated with great capacity, either for weal or woe.

A long forehead indicates intelligence; a short one, activity.

A conspicuous forehead invariably shows great penetrative and executive ability.

Fulness of the temples is very noticeable in persons of marked mathematical ability.

A prominence just above the eyebrows is a sure sign of individuality.

An irregular, corrugated forehead shows that its owner is a person of an original and investigating mind.

Foreheads wrinkled in the upper part, while the lower half is smooth, show dulness and stupidity.

When the upper lip constantly projects, its possessor's besetting sin is arrogance.

A perfectly-formed face should be divided into three equal parts; from the roots of the hair to the root of the nose, thence to the tip, and from the tip of the nose to the tip of the chin.—*Health.*

REST AND RECREATION.—"One of those statisticians who seem to never have anything of importance to do estimates that 10,000,000 people in the United States will take vacations this year and that they will spend in the aggregate \$100,000,000. As this would be an average of only \$10 each some of the vacations must be very inexpensive. But suppose 10,000,000 people do spend \$100,000.00 in vacations; they will doubtless get the worth of their money in one way or another."—*Nashville Daily American.*

Yes, indeed, will they get the full worth of their money; no more correct words were ever written, and the investment will pay manifold.

The error of to-day, more especially with our business men is not only too much work, but too continuous as well. A strenuous life is commendable, but in its strenuousness it should have periods of relaxation. The string that is ever at high tension is soon destroyed and becomes worthless. The Divine edict of one day's rest in seven, is not sufficiently observed—if it were possible there would be no need of summer vacations or winter holidays. Our business men as a rule, are too much given to not only carrying their

(Continued on p. XIV)

It is to **YOUR OWN** interest, Doctor, that nothing should be too good for your patient. He is entitled to the benefit of all that experience has proven to be of superior value. Abundant clinical evidence asserts that the most eligible and efficient preparation of cod-liver oil is **HYDROLEINE**. It is a refined, predigested Norwegian oil, combined with pure pancreatin and sodium bicarbonate. It does not become rancid; it does not nauseate; and it is not contaminated by foreign and deleterious substances necessary to the formation of ordinary emulsions.

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business cares home with them, but the strain is kept up, day in and day out for seven days each week. Outside of the propriety of religious custom and a correct observance of the tenets of the church, there is an absolute physical necessity for periods of complete relaxation, rest and recuperation. And as it seems impossible from the nature of personal environment in many lines of business to obtain this weekly, then as next best, as the most reasonable substitute, an annual or semi-annual laying aside of all duties and responsibilities that have been carried day by day is well worthy of consideration.

Whether it be labor and strain of brain or brawn, if continuous, the machine the sooner breaks down—if the wreck is not complete, the work is the more improperly performed and in the end is not so profitable. A man or woman cannot only accomplish more, in our opinion, with eleven, or even ten months active exercise of their powers, mental or muscular, than by a continuous effort prolonged through the entire twelve months of the year, but they will be able to extend their days of usefulness over a longer period of years.

It takes the first twenty or thirty years of life to equip the human organism for its most perfect discharge of duty—with one continued rush and worry, within less than two decades it begins to fail, if complete wreck and ruin have not resulted. If so much as two whole years one month at a time were taken out of the two decades of active business life we feel fully justified in the assertion of its adding at least an entire decade to that life, and a decade enhanced, improved and developed by the most valuable school of all, *experience*. Too often is it to be noticed that many of our best men break down just at the time when by past experience they are most valuable.

This view is the result of personal observation, and we know that it will be sustained by a careful revision of the past by anyone with sufficient capacity to put two and two together. In this locality, the statistician quoted at the head of this article, discharged a very important duty, if he but causes one-tenth, or one-hundredth of one per cent. of our business men to stop for a moment and reflect, think and study his proposition. At this season of the year in this "bailiwick" as in many others, business is usually at its ebb, and it is a most opportune time to lay aside all cares and seek complete rest and relaxation. Hie away to the woods, to the mountains, the sea shore, anywhere that a quiet, restful and agreeable locality can be found, and one in which its natural environments will not only bring about an active change of mental and physical action, but wherein the continued strain and stress of business worry is completely debarred.

Too many, alas, will say, "I cannot be spared from my business." Yet, if they will but look around in even a few years past, they will see more than one example in which it seemed that it would be impossible that the business carried on by a friend or relative could go on satisfactorily in the absence of that particular individual; and yet the final summons has come to him, possibly unexpectedly, he has dropped out forever, and yet that business still goes on. And the day will come when they too will have to "lay down the shovel and the hoe," no longer scan day book and ledger, and whose tympani will no more vibrate in unison with the electric ticker. And the vacancy created thereby will be about as apparent as that produced by withdrawing a cambric needle from a full goblet of water.

To the denizen of the city we would say go to

the woods, take wife and children for two or three weeks and rest, *rest*, REST, and then come back to your work with renewed energies, invigorated muscle and refreshed and restored brain cell and nerve fiber.—*Southern Practitioner*.

THE DOCTOR'S DREAM—

Last evening I was talking

With a doctor, aged and gray,
Who told me of a dream he had,
I think 'twas Christmas day.

While snoozing in his office,

The vision came to view,
For he saw an angel enter,
Dressed in garments white and new.

Said the angel, "I'm from heaven;

The Lord just sent me down,
To bring you up to glory,
To wear your golden crown.

"You've been a friend to everyone,
And worked hard, night and day;
You have doctored many thousands,
And from few received your pay.

"So we want you up in glory,
For you have labored hard,
And the good Lord is preparing
Your eternal, just reward."

Then the angel and the doctor
Started up toward glory's gate,
But when passing close to hades,
The angel murmured, "Wait."

"I have here a place to show you;
It's the hottest place in hell,
Where the ones who never paid you
In torment always dwell."

And, behold, the doctor saw there
His old patients by the score,
And taking up a chair and fan,
He wished for nothing more.

But was bound to sit and watch them,
As they sizzle, singe and burn,
And his eyes would rest on debtors
Whichever way they'd turn.

Said the angel, "Come on, doctor,
There the pearly gates I see";
But the doctor only muttered,
"This is good enough for me!"

He refused to go on further,
But preferred to sit and gaze
At that crowd of rank old dead-heads,
As they lay there in the blaze.

But just then the doctor's office clock
Cuckooed the hour of seven,
And he awoke to find himself
In neither hell nor heaven.

—G. A. Moore, M.D., in *Med. Herald*.

SUBSTITUTE AND CURE FOR THE TOBACCO HABIT.
—The bark of the *liriodendron tulipifera*, also known under the name of poplar—white poplar and white wood—is a very efficient cure for the tobacco habit. The fresh inner bark may be chewed, or the powdered bark may be mixed with sugar and extract of licorice and pressed into a tablet, say of five grains of the bark. These tablets are to be allowed to dissolve in

the mouth whenever the desire comes to take a chew or a smoke. The man who made the discovery cured himself, and he was an inveterate chewer. He also gave it to dozens of his friends with fine results, finally selling his receipt to a large drug house for fifteen hundred dollars. While the remedy is cheap, it is also harmless, and at the same time a fine stomachic, resembling gentian in its action upon the gastric organs.—*Eclectic Med. Jour.*

THE DOCTOR'S CREED.—

Sometimes he would say, "I have no 'creed'; I believe in serving the people's need; A creed is a comfortless thing," he said, "When one is in need of a doctor—and bread. First see that the bodily ills are relieved, And your creed and your Gospel will be received."

He believed in a creed of a higher plan Than any conceived by the mind of man. "I was sick, and in prison," you know, He said; "I was naked and hungry—ye clothed and fed; Inasmuch as ye did it to mine," saith the Lord, "Ye did it to me, and shall have your reward."

There was never a night so stormy and cold, But he braved it all, like a soldier bold, When the summons came, to relieve distress In the home of wealth or wretchedness, But he urged his horse with a kindly touch, And murmured the words, "Inasmuch, inasmuch."

There was poor "Widow Gray," who lived all alone

In her humble cot, where the cold winds moan Through shingle and shutter, and often her fire Was lower, indeed, than her heart could desire; And when she fell ill, and helpless lay In the doctor's care for many a day,

He tended her needs with as kindly a care As he would the wife of a millionaire. One day, from her poor little purse she drew A dollar, and said, "I saved it for you." But he tied up her "mite" with a skilful touch With the powders he left—"Inasmuch, inasmuch."

And poor Tom Mulligan, down at the mine, Who worked for his wife and children nine,— It was hard times for them when the mine roof fell,

And the doctor said, "He will never be well." But he lingered in pain till the early spring, Then went where they know no suffering.

And the doctor looked over his long account, For the "total" had grown to a large amount; But he thought of the wife and children nine, And no poor "Tom" to work in the mine; So he scratched the account with a skilful touch As he murmured his creed, "Inasmuch, inasmuch."

And when he shall settle life's final account,— The right 'gainst the wrong—their "total" amount, The widow's mite and orphan's need Will be there to tell of "The Doctor's Creed"; And the wrong will be scratched by the angel's touch, And the Judge will declare, "Inasmuch, inasmuch."

—Emma F. Swingle in *Columbus Med. Jour.*

PROFIT IN PATENTED INVENTIONS.—A writer in the *New York Sun* considers a good patent as valuable as a gold mine in its way. Patents and gold mines resemble each other very much in one respect; there are no infallible signs by which

(Continued on p. xvi)

WOMEN IN PREGNANCY

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Prepared it presents an appetizing appearance and a tempting odor. It is a decided change from the ordinary delicacies for the sick room. It is enthusiastically welcomed, as the average layman knows the value of the juice of the clam as a beverage, as strengthening and tonic in its effect, both to the stomach and the nervous system. An especially attractive feature about **BURNHAM'S CLAM BOUILLON** consists in the fact that it is bottled in glass, being sold in pints and half pints. This assures not only cleanliness and convenience in the serving, but perfect purity and freshness while using in the sick room. All the leading apothecaries and grocers sell it.

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one may recognize the bonanzas. No matter what the prospectus may say, the mine must be worked before its value may be known. No matter what the theories of the inventor may be, the world's market, and not himself, must determine the value of his invention.

Some very large fortunes have been made out of apparently trivial inventions. There is much luck in the first place. But skill in handling the patent counts for even more than luck. The little rubber stopper with the wire attached to it, which is used now on every beer bottle, is a good example of fine business management in the handling of an apparently trifling invention.

Some inventions, says the writer, drag along for years without getting to a paying stage, and then suddenly make fortunes for their owners when the patent is almost run out. The typewriter is an example of this thing. The men who believed in it had many reasons for giving up all hope of its ultimate success. The man who had the general agency for the whole South in 1877 sold only four machines in a year, three of them in one town, Huntsville, Ala. It was not until the most valuable part of the patents had expired that any one made any money on the typewriter. Bell offered to sell a half interest in his telephone to his next-door neighbor for \$1,000, and the neighbor laughed at the absurdity of paying such a price for an interest in a freak scientific toy.

Speaking of Bell's telephone, it is not generally known that he came very near losing all his English patent rights, and would have done so, but for a most remarkable piece of luck. At the time of the telephone's invention Lord Kelvin was in this country, and he took back with him to Scotland one of the crude instruments which Bell had made, intending to exhibit it to his college classes as an American curiosity. At that time the transmitter had a spiral spring on the upper side, and while the model was knocking about among the scientist's baggage in its journey across the ocean this spring somehow got bent upward. When Lord Kelvin came to give the promised exhibition the thing would not work, because the spring was bent up too much. It is almost impossible to believe, but it is nevertheless a fact, that it never occurred to the giant intellect of this great scientist to press that spring down again, and he had to apologize to his audience for the failure of the much advertised experiment. A publication before application for a patent is a bar in England, and when the great trial to settle the validity of the Bell patents came up over there, it was sought to prove this previous publication, and this lecture was a case in point, but it was conclusively proved that there had been no publication in this lecture, because the model would not work. Had Lord Kelvin pressed down that little spring and shown those Scotch laddies how the telephone worked it would have cost the Bell company many millions of dollars and made 'phones cheap in England.

The simplest inventions are the best money-makers, because to perfect complicated machines costs time and money. A great many have ended with the original conception, the inventor having no ability to handle detail so as to carry out the original idea in a practical way. The Bessemer process of converting steel is extremely simple, blowing hot air through the molten metal. Just sit down and get out the drawings for a machine which will carry out this idea, especially the arrangements for controlling the supply of air that is admitted to the converter, and see how soon you will find that the first idea is a small part

of the invention as a whole. The use of compressed air as a motive power was understood and appreciated thirty years ago, but no one could invent a governor which would control it, although hundreds of patents were taken out which professed to do so. The power of the steam from a kettle was evident to Watt long before he could devise a means of utilizing it. The combination of the piston and the slide valve, which looks so simple to us now, was not worked out in a day.

It is a common practice to speak contemptuously of inventors on account of their exaggerated notions of the value of their ideas. When the invention is obviously a delusion this is quite natural, but it must not be forgotten that without this infatuation for the creatures of their brains inventors would be much more easily discouraged than they are, and many of the most valuable inventions might be lost. The tenacity with which some of them cling to their ideas until they finally force their adoption upon the world almost amounts to inspiration. It seems born in some men to fight harder for the children of their brains than for their families, and it seems a pity that their reward is not often greater than it is.—*Scientific Amer.*

TUA-TUA IN LEPROSY.—Reports from Honolulu state that beneficial results have been obtained in the treatment of leprosy from a shrub which was sent there two years ago by Secretary of Agriculture Wilson. This shrub comes from Venezuela, where it is called Tua-Tua. Some experiments were made by Dr. Camp, but the subjects were removed to Molokai before the remedy had time to work. Miss Teura Henry, a public school teacher, then sent some of the shrubs to Tahiti, where the remedy was tried on a leprosy youth. She prepared a decoction from the leaves, twigs and seeds and it was taken internally, producing violent convulsions. The patient's nose was fearfully swollen and his finger nails had fallen off, but this treatment checked the swelling of fingers and nose and removed the stiffness which had prevented him from the use of his hands. Slips of the plant have been sent to Molokai, and it is hoped that it may cure this dreaded disease, which from earliest historical times has been incurable.

THE CRIME OF VERA CRUZ.—It was one day in August, when all nature was giving out her magnificent beauty. The period of ease had arrived. Both man and beast, as they treaded along the path of duty, each seemed in their silent way to give out a prayer to God—one of those Indiana summer days on the Wabash River which we all love to remember.

The subject of our story, after a long drive, was just returning to Vera Cruz. Dr. James Hammerton had his shingle out in this beautiful little village, and it was his pleasure to realize that day by day his practise was increasing. Four years of constant devotion had given him prestige. Often when he made a call he would ride along the old river road and gaze at the beautiful Wabash as she sang to him of her contentment.

Dr. Hammerton was the son of a once rich father, who had spent his last dollar in completing his son's education. He was a graduate of the oldest medical college in the West, and from his infancy this young man had received the highest kind of culture. Some would imagine that he could never be contented in such a small

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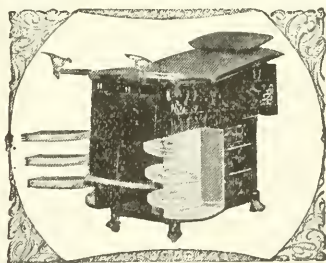
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place, but he was; more than this, his mind was satisfied with the success he was having, and nothing but pleasure filled his soul as he was allowed to converse with Nature, which is the language of God. Many a man who has reached the zenith of his professional glory was more discontented than he who, in this small Indiana village, was given an opportunity to do a general practise. Dr. Hammerton could look back over his professional life and proudly say to himself: "I have been honest. I have never surrendered myself or my profession for a few dollars in order to satisfy the desires of a few." Happy he was, and happy he should be, for he had a clear conscience. God always blesses the physician who is honest, and the reward is always greater than all riches. Early in life this young physician had learned that the secret of a happy life was to be contented, never to worry.

Each month, as sure as the day arrived, you could see this young medical man winding his way over the old river road to the county seat to attend the medical society. Being of an investigative mind and naturally enthusiastic, very few meetings passed in which he was not an active participant. Often he would protest against some of the evils that existed in the profession and object to the narrowness of his school of medicine. He would proudly point out to them in the history of medicine that all great reforms had been forced upon the profession. At one of these meetings he read a paper denouncing the evil of loving money to such an extent that the physician would even rob Mother Nature from fulfilling her mission, by, if not openly, secretly consenting to the taking of human life. After reading his paper with all the fearlessness of youth, the time for discussion arrived. Some remained in their seats, with a cunning smile on their face, which is, as a rule, evidence of ignorance; others discussed the paper, some praising, others condemning. But one, who, from long experience and close study, had won the love and esteem of all, discussed the paper intelligently. He spoke of the good points and of the defects. The one statement that Dr. Hammerton carried home with him that night, that old Dr. Broadbent made, as that was his name, was this: "Man is an individual of circumstance; it is my prayer that Dr. Hammerton will never meet in his practise with some circumstances which I have met; if he does I trust that he will be stronger than I have been."

It is an old saying that an open confession is good for the soul; not only is this true, but it often causes those who are strong in their convictions to stop and think. This young man had behind him the purity of the ages in his appeal for reform; he was the mouthpiece of the everlasting survivor of the world—truth. But one element he lacked in order to present his subject more diplomatically, and that was experience. However, a man might live a thousand years and not come across the same experience that Dr. Broadbent had in mind when he said, "it is my prayer that Dr. Hammerton will never meet in his practise with some circumstances which I have met." What were the circumstances? The young man wondered. He was wise enough to know that a physician, above all men, keeps his secrets. It is an unwritten law to do so. Hammerton had confidence in himself; he had no fear of circumstances. But sometimes, in an unguarded moment, all the wisdom of the ages does not seem to protect us.

This young Hoosier doctor was a philosopher;

he had, by careful study, found the weaknesses of humanity and discovered the wrecking points in the ocean of life, and he was not to be led astray by any ordinary circumstances. He said to himself many times, "I will do good; I trust I shall never do harm." But to us, often, a strange voice says, "what is good?" In the practise of medicine, as in other vocations in life, what appears to one as being good, to another may appear as harm, but this is due to lack of knowledge. Those that study the history of medicine claim that disease is a simple departure from health, and in order to treat scientifically the pathological processes should be studied. While those who satisfy themselves with the everyday knowledge, not looking at the past or concerning themselves seriously about the future, would prescribe favorite formulas for each class of symptoms under a name, and still both claim they are doing good. No doubt Satan can give a good explanation for his principles.

The subject of our sketch was a student not only of books, but of nature, and from such learning he had a high regard for that which is good and pure. He was an individual of circumstance, it is true, but the optimist would claim that he had made his circumstance. Study was first, pleasure secondary with Dr. Hammerton, but like all human beings, he was having his thought on science displaced by those of the fair sex. While on his visits to the county seat he had met a beautiful young lady, the daughter of a once prominent man, who had permitted himself, through his intellectual and political pursuits, to neglect his physical and financial condition. His acquaintance with this young lady rapidly developed into deep devotion. She was intelligent, but poor. That he loved her no one could doubt. Dr. Hammerton was not a society man; he was a student of nature, so he could only be a friend to one who had been raised in what is supposed to be society in a small county seat town. Often they met, but the decision was understood—only a friend. How sad the words seemed to the physician! But he was a student, one who reasoned, and while at leisure in his office, surrounded by his medical paraphernalia, he vowed by the strength that was in him he would be a friend, if God, who witnessed the sacred pledge, would permit. If at this time he could have read the future, as some pretenders with less knowledge claim they can, no doubt he would not have made such a pledge.

Alice Larue had been raised to be a lady. She was bright, being well educated, but had never been required to work; in fact, her mother was of the opinion that it was unladylike to do so. Her father in his life was more concerned about books than money, consequently at his death he left nothing but a good name to his family. The death of her father being sudden, it was a serious thing for this girl to be forced to labor for an existence, but by the help of friends Alice obtained a position as stenographer in an attorney's office, and managed to provide a living for herself and mother. Although forced to forego many of the habits to which she was accustomed, she was still happy and contented. Her intelligence and beauty caused her to be a social favorite, and many a young Miss envied her. It was at one of the many social functions that Dr. Hammerton became acquainted with this young lady; they rapidly became fast friends, but friendship with the young physician rapidly grew to be love. Miss Alice could only look on the medical man as a friend, as is often the case with those who are enchanted by the false lights of society.

J. Albert King, a young Eastern man who had come to this town of Banning to look after the books for an oil firm, was a society man. He spent his money lavishly and was the cause of the reviving of society affairs. Naturally, he paid special attention to Miss Larue, being attracted by her beauty. At every opportunity she received his kind attention. He was the lion of the town. No wonder that many a fair maiden down deep in her heart permitted a spark of jealousy to appear. Time passed until it was a common thing to associate the name of Alice Larue and Al. King together. The mother of the young lady did not object to her daughter receiving this young man's attention; in fact, she encouraged it, for he surely must be wealthy, she thought. But J. Albert King was a man of the world. He was handsome. His ambition was to be popular at any cost, but in his inner self the flame of dishonesty burned.

In a short time gossip was at its highest pitch. Miss Larue, the flower of Banning, the town she so much loved, was no longer the gay, happy maiden, but the unhappy subject of a dishonest man's passion. One bright morning the citizens of the town of Banning were startled to learn that J. Albert King, the society favorite, had disappeared. The report was that he had used the company's money, but this was not all; this human parasite had robbed an innocent maiden of her virtue—caused her to be the mark for gossiping tongues, while he, the cur that he was, had run away and left a poor, friendless creature behind to suffer from his diabolical deeds. Wild with the mental punishment which always comes from disgrace, this young girl lay at the feet of the cold world begging for mercy. Her mother, in her shrewdness, readily appreciated the position and spoke to her of the great friendship that existed between her and Dr. Hammerton. "If he is a friend will he not save you?" she said.

While this tragedy was being enacted Dr. Hammerton continued his practise, a disappointed but wiser man. He often said to himself: "In my mad rush after knowledge I have neglected society affairs. I have become wiser and better, but I have erected a barrier around myself." Of late he had grown discontented; for the first time in his life he found himself at times worrying. Disappointment, to those who have investigated into the mysteries of life, sometimes has a mightier sting and lasts longer than it does to those who live more superficially. At this time there was much sickness. Each day Dr. Hammerton could be seen traveling over the dusty roads to see some poor sick patient. "Like an angel of mercy he ministered unto them."

"The soul that stays where the battle is
And lives with zeal aflame,
To stand to the duties he thinks are his,
May never be known to fame.

"But his destiny-star will never be dim
For the storms he passes through;
For a kindly light will shine for him
And whatever he tries to do.

"With a heart of hope and a conscience clear,
The trials of life seem naught;
And love is the fearless chief to cheer,
Where the battle of souls is fought.

"For unselfish lives are the lives God speeds
To the goal supremely bright;
And happy, indeed, is the heart that heeds
The blaze of its kindly light."

After a long drive in the country, tired out from both mental and bodily action, the doctor was resting in his dim-lighted office. The air was saturated with a combination of drugs. The books and magazines were scattered over the table. All was quiet within. Dr. Hammerton sat there meditating over the past and hoping for the future. A sudden rap at the door startled him from his dreams; at first he was so dazed that he could not respond, but a second knock brought him to his senses. He called out, "Come in!" The door being opened, Alice Larue walked in.

"He who seeks the truth and trembles

At the dangers he must brave,

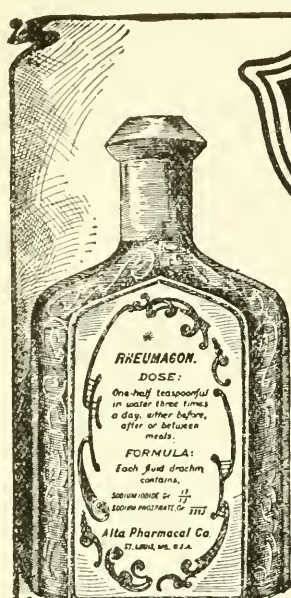
Is not fit to be a freeman,

He deserves to be a slave."

These were the lines that were running through Dr. Hammerton's mind as she made her sad appearance. Alice Larue had come to Vera Cruz for a purpose, and that purpose was to consult her friend, Dr. Hammerton. She was not a foolish woman, but intelligent, at least so understood by society. In tears she told the young doctor of her misfortune, and implored him on her knees to save her from this disgrace. When man is in the presence of the one he loves, although he has been rejected, although all the science and all the wisdom that has been handed down from time immemorial is fresh in his mind, impulse may force him to throw all of this to the wind, and with the same feeling that causes an individual to save a drowning child he will unfeelingly, so to speak, save the living object that stands before him, if it does take the life that is hidden behind nature's curtains. The crime was committed. To some it may appear as a duty; nevertheless, the law of life, "Thou shalt not kill," is applicable here, and the guilty must suffer. Who knows what the impulses were, what the thoughts were at this mad hour, when this honest medical man, who had always advocated honesty of purpose, permitted himself to ignore all the training he had received because he loved?

A week passes and Miss Larue is on her deathbed. Old Dr. Broadbent says she has peritonitis (?) and cannot recover. His long experience has given him power over some, it appears, as his prognosis was correct; in twenty-four hours the patient died. What a sad ending, some said, as the remains of the unfortunate girl were placed in their last resting place. The Banning News a few nights after contained the following item: "A prominent physician has been expelled from the Warren County Medical Society. He is charged with criminal abortion."

It was a dark, rainy night. The old Wabash had overflowed her banks. A lonely traveler could be seen driving along until he came to the old river road. Dismounting from his buggy, he wrapped the lines around the whip socket, unreined his old reliable horse "Jack," patted him on the neck, and stepped a few feet away; almost instantly a shot was heard. The horse, from fright, ran away. Shortly afterward persons returning from town discovered a body lying by the road side, with a pistol grasped in one hand, which was recognized as the dead body of Dr. Hammerton. No doubt, as the last thoughts were leaving his mind, the words of old Dr. Broadbent came to him: "Man is an individual of circumstance; it is my prayer that Dr. Hammerton will never meet in his practise with some circumstances which I have met; if he does, I trust he will be stronger than I have been."—Brose S. Horne, M.D. (State Prison Physician, Michigan City, Ind.) in *Cin. Lancet-Clinic*.



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Vol. IV

MAY, 1902

No. 5

"The Little Things That Count"

A PROMINENT physician was called in to treat a case of ivy poisoning. The case was an extremely severe one. The entire face, chest, and arms were swollen, and the intensity of the itching can be fully appreciated only by one who has had the misfortune to be a victim of rhus poisoning, or has seen the suffering and frantic scratching of such victims. The physician prescribed an ointment and left. The ointment brought no relief; on the contrary, it seemed to intensify the inflammation and the itching. The physician made three or four more visits, changing the prescription each time, but each new prescription seemed to be as ineffective or as contra-indicated as the first. As the patient's condition was becoming intolerable, a change of physicians was suggested. At the advice of a friend who had been rapidly relieved of a similar condition by a certain humble practitioner, the latter was called in. A lotion was prescribed and in a few hours the patient's condition was so much improved that he fell into a sound sleep—a luxury which he had not enjoyed since he had had the misfortune of coming into too close proximity with *Rhus toxicodendron*. In two to three days the patient was practically well.

Now, why was it? Why did a prominent and erudite physician utterly fail to relieve that dermatitis venenata, which yielded so readily to the ministrations of a humble empiric? The answer is simple: Many

physicians fail to pay attention to the "little things" in medicine. There are innumerable ills, ailments, and annoyances which afflict mankind, but which are not accompanied by any mortality and are not dignified with the name of real diseases. Such ailments the prominent physicians and professors consider *infra dignitatem* to pay any attention to. They are not discussed in the college lectures, the general text-books on medicine and surgery devote little or no space to them, neither do the high-class journals, and they never form the subject of a paper at the meetings of our medical societies. The modern "practical" journals do devote considerable space to the treatment of minor ills and ailments; but then, again, it is not very dignified to subscribe to such journals. And so it comes about that in a large number of affections the very humble empirical practitioner who has but a bowing acquaintance with bacteriology and pathology, but who considers no trouble of the human flesh beneath his dignity—or even the druggist around the corner, whom necessity compels to know something about the little ailments—is able to advise better and to do more good than the highly advanced "scientific" physician, who is *au courant* with the etiology and pathogenesis of the rarest diseases, and is conversant with the life history of the latest arrivals in the domains of bacilli and cocci.

A surgeon who can do a Chopart ampu-

tation or a Pirogoff operation beautifully was once utterly non-plused when asked to prescribe something for chilblain. It is true that a crushed or gangrenous foot, which may necessitate an operation, is infinitely more serious than a chilblain, but as there are a thousand cases of chilblain to one case necessitating amputation, it is a question whether the aggregate amount of annoyance and suffering from the former is not in excess of that of the latter. And so it is with many other of the minor ailments: what they lack in quality they make up in quantity. It is, therefore, a great error to neglect their proper study; the physician who fails to relieve in small things often jeopardizes his practice, because his patients are apt to reason that if Dr. So-and-So is unable to cure chilblain, or the hives or dandruff, or a simple cold in the head, he is certainly not competent enough to be entrusted with a case of typhoid or pneumonia. And while we professional men know that such reasoning is wrong, the layman can not be expected to see any flaw in such logic.

A "little thing" that is frequently overlooked by physicians is the appearance and, particularly, the taste of the medicines prescribed. The time is gone when people considered the efficiency of a medicine proportionate to the nastiness of its taste. Our nervous organization is more sensitive and we know that with the best of will, many people, especially women, are unable to compel themselves to swallow some of the stuff that is prescribed for them. The present tendency—and a good tendency it is—is towards elegance in appearance, and at least a more or less tolerable taste, and woe to the physicians who wholly disregard this tendency. The following incident is illustrative of thousands of similar character. An anemic child, about three years of age, had been suffering for several days with malarial fever. The doctor who was called in prescribed a mixture of quinine sulphate, diluted sulphuric acid, tincture of iron, syrup, and water. For a long time after taking the first dose the child cried, expectorated, threw itself about, and at last vomited.

When the time came for the second dose, the child struggled so violently that it was impossible to administer the medicine without using brute force. Only after holding the baby's nostrils and forcibly pushing the teaspoon between the teeth—which act caused bleeding of the gums—could the dose be poured down the baby's throat. The same scene was repeated when the time came for the next dose. A neighbor present during the child's struggle said she did not think the child was simply capricious: the medicine must taste awfully bad. The mother was induced to try it—she did not endeavor to make the child take any more of that medicine, but sent for another physician. The latter treated the child—who evinced terror at the sight of medicine—with quinine suppositories, and with most rapid results. The child was not afterward afraid of *that* doctor.

There are many "little things" that count in making for success or failure in a physician's career. We have alluded to a few. Perhaps at another time we shall call attention to other "little things" that should be studied and attended to.

BRUTAL TRUTHS

In our April editorial we referred to the therapeutic value of a hopeful prognosis and the injurious effect of a hopeless one. The following extract from *Success* expresses our idea in a forceful manner:

"Many people are killed by brutal truths. Some physicians are so conscientious—and so tactless—that they think they must tell patients the whole truth when they believe they cannot recover, instead of giving them the benefit of the doubt, for every physician knows that, nearly always, there is a doubt which way the case will turn. Cheerful encouragement has saved many a life by helping it to pass a crisis favorably when the actual truth might have killed the patient or reduced his rallying powers to the danger-point. In all the affairs of life, cruel bluntness in stating brutal facts has caused untold misery and broken many friendships. Truth itself changes from a jewel to a dangerous weapon in the hands of a tactless person."

[Written for MERCK'S ARCHIVES]

A NEW USE OF SUPRARENAL GLAND

By Frank Sherman Meara, Ph.D., M.D., of New York

To watch the success of a therapeutic measure, the application of which is deduced from solid premises wrought out by careful scientific research, is always fascinating to the student of medicine. Organotherapy must be classed among the triumphs of modern experimental medicine; but in our desire to do good we are likely to exceed its proper limitations, with the inevitable result of disappointment and consequent undeserved neglect. Time, the great judge, sifts the accumulating evidence for and against, until the truth is known. In the meantime it behooves us as witnesses to offer such testimony as may be deemed relevant.

With this preface as a reason for what follows I will cite two cases, which I believe will prove interesting and instructive.

In the summer of 1901 a young lady eighteen years of age was brought to me with the following history: Ten days before, suddenly, and with no cause apparent to her, she was seized with a violent itching of the vulva and anus. At that time she was at home in a distant city, and at once sought advice of her family practitioner. Numerous efforts were made to afford relief without success. This condition meanwhile was becoming unbearable, preventing her leaving the house or sitting in company, for obvious reasons. An examination showed an intensely hyperemic condition of the vulva and lower end of the vagina, with increased secretion. Nothing abnormal could be seen about the anus.

Whatever the cause may have been, it seemed to me a vicious circle had been established in which the congestion aggravated the itching, and the uncontrollable effort to mitigate the itching by rubbing and scratching increased the congestion.

To break a link in this chain was the obvious treatment in the absence of a known cause. One of two things might have been done: either so to anesthetize the sensory nerve-endings as to block the impulse to scratch, or to control the congestion. The first procedure is the usual one, and, when the skin is to be dealt with, the only one affording promise. This measure had already been sufficiently tried, and though I did not know what particular local anesthetics had been used, I deemed it better to make some decided impression on the dilated vessels. Cocaine would be indicated for either procedure, but the marked dilatation following on its primary con-

stricting effects would probably aggravate the trouble, as all know who have used it in the nasal passages.

Theoretically, suprarenal gland gave the best assurance of immediate benefit so far as the vessels were concerned, with the minimum of after penalty. A strong preparation of suprarenal was accordingly applied to the part. A rapid blanching of the mucous membrane ensued; the contrast between the deep bluish-red of the congested area to the pinkish white after the application was very striking indeed. In a moment the itching increased, then gave way to a burning, and then ceased, all within a few minutes. Before the patient was off the table, an application was made to the anus through a wire speculum.

The effect of this application lasted until the next morning, fourteen hours later, when the itching of the vulva recurred suddenly. According to instructions, a second application was made at once with immediate result. The after-effect was one of discomfort, which the patient described as a "kind of dryness or puckering," which seemed to chafe, evidently due to diminution of normal secretions. The use of boric-acid ointment obviated this discomfort, and during the two months following, while I had the case under observation, no recurrence of the trouble took place. As regards her general condition, I might add that she was slightly anemic, with a hemic murmur in the second left intercostal space, and had a little acne of the face. Tonic treatment was given.

By one of those singular coincidences that so often surprise a practitioner, a second case of this kind presented itself a few weeks later in a married woman. It was less intense than the first and an examination was not made. Here, too, immediate relief was afforded and continued for some weeks, when a letter from my patient, who lives in another city, announced a recurrence and she requested a copy of the prescription.

So happy was the effect of this drug in a condition that every physician knows is often maddening in its pertinacity that, though limited to two cases in my experience, I offer it in the hope it may prove of equal value to some of the numerous readers of the ARCHIVES.

407 West End Avenue.

THE usefulness of the suprarenal preparations is fast increasing, due to their powerful, vaso-constricting effects. This potency, however, must teach us to use the drug cautiously.

[Written for MERCK'S ARCHIVES]

AN INDEX OF DISEASES ALPHABETICALLY ARRANGED, WITH THEIR MODERN TREATMENT

By G. Bjorkman, A.M., M.D.

Professor of Physiology, Milwaukee Medical College

(Continued from page 102, March issue)

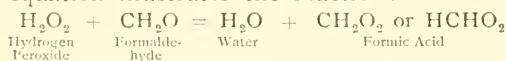
CARCINOMA MAMMÆ (cancer of the breast).—Radical operation as soon as possible. In case of encephaloid in young women or of scirrhus in very aged ones, the extirpation is sometimes contra-indicated. Treatment of inoperable cases should be mainly palliative. Here the physician can be more liberal in administering narcotics than in other conditions of suffering. Unnecessary pressure over the tumor should be removed and the arm of the involved side kept resting as much as possible.

Good results are reported by injection of 50-per-cent. alcohol into the submammary tissues; also from hardening of the tumor gradually by application of strong formaldehyde solutions. The hardened tissue is thrown off finally, leaving healthy tissue at the bottom of the produced ulcers. The experience of the author, however, does not allow a positive recommendation of these methods. Tonic medication should be advised: iron preparations, cinchona, and arsenic.

Solutions for cleansing and antiseptic purposes:

- (240) Formaldehydi.....gtts. xv. (15 drops)
Sol. Hydrogenii Perox., ad. 500. (1 pint)
Use as a wash several times a day.

[It is well to note that formaldehyde and hydrogen peroxide, though both excellent antiseptics, are chemically incompatible. The peroxide is decomposed into water and oxygen, and this element oxidizes the formaldehyde to formic acid. The following equation illustrates the reaction:



(Of course, when the amount of formaldehyde is small as compared with the amount of peroxide, but a small amount of the latter will be decomposed. This is the case in the preceding prescription.—EDITOR.)

- (241) Potassii Chloratis,
Sodii Borat., aa..... 4. (1 dr.)
Glycerini..... 30. (1 oz.)
Aq. Rose, ad..... 180. (6 oz.)
Use as a wash several times a day.

- (242) Potassii Permangan... 10. (2½ dr.)
Aq. Dest..... 240. (8 oz.)
To be applied diluted or in full strength.

Injections around the carcinomatous tissues of methylene blue in 2-per-cent. solution, or application of pyoktanin to the

neoplasm itself, have been recommended as effective.

CARCINOMA UTERI belongs absolutely to the surgical territory. In inoperable cases the treatment should be palliative, providing for cleanliness and antisepsis. In profuse hemorrhages, supraprenal extract may be applied to the endometrium or the ulcerated surface. Tamponing with iodoform gauze, or ferropyrine, or stypticin per os, may give satisfaction.

- (243) Ferropyrini..... 0.5 (8 grn.)
Eleosacch. Menth. Pip., q. s.
Dr. tal. dos. ad chartas cerat. No. xv.
One powder three or four times a day.

- (244) Stypticini..... 0.12-0.25 (2-4 grn.)
Salipyrini..... 0.5-1. (8-16 grn.)
Dr. tal. dos. No. viii.
One powder every hour until effect is reached.

Small doses (½ to 1 teaspoonful) of Glauber's salt given per os, work sometimes excellently as a hemostatic.

In severe pain:

- (245) Extr. Belladonnæ..... 0.015 (¼ grn.)
Extr. Opii..... 0.06 (1 grn.)
Butyr. Cacao, q. s. ad supposit. unum.
Dr. tal. supposit. No. x.
To be inserted in vagina, when needed, three times a day.

CARCINOMA VENTRICULI (cancer of the stomach).—The medical treatment of this disease is also limited to palliative measures. If the diagnosis is made early a radical operation is always advisable; even if well-founded suspicions of cancer exist, an exploratory incision is indicated. If the carcinoma involves the cardia, narcotics should be administered liberally and nourishment per rectum applied if deglutition is interfered with. If the carcinoma involves the pyloric end, great care should be given the stomach to prevent dilatation and consequent fermentation—often repeated lavages, strengthening of the muscular apparatus of the stomach, and as concentrated food as possible. Predigested food is here of great value. Scraped beef, somatose, whipped eggs, etc., are very fit nourishment. In case of uncontrollable vomiting: lavage, some prepared foods (iced), malted milk, kefir preparation, and iced champagne are in place.

In severe pains, morphine and its derivatives are of course indispensable.

- (246) Bismuth Subnitr..... 0.5 (8 grn.)
Dionini..... 0.025 (2/5 grn.)
Dr. tal. dos. No. xii.
One powder three or four times a day.

- (247) Dionini..... 0.3 (5 grn.)
Aq. Amyg. Amaræ..... 15. (4 dr.)

Fifteen drops several times a day. (If the vomiting is severe, 0.15 of cocaine may be added to this.)

- (248) Morph. Mur.,
Cocain. Mur., aa. 0.15 (2½ grn.)
Aq. Amyg. Amaræ. 15. (4 dr.)
Fifteen drops three times a day.

To benefit the peptic and muscular apparatus of the stomach many preparations are recommended. They undoubtedly have a certain value in this respect, particularly if antifermentatives are added.

- (249) Cort. Condurango. 30. (1 oz.)
Macer. per horas XII cum.
Aq. Dest., q. s. ut ft. decoct. ... 300. (10 oz.)
Syrupi Cinnamomi. 20. (5 dr.)
Tablespoonful three times a day.

The specific action claimed for condurango is of course nonsensical, but it is a very excellent stomachic and will often benefit a cancerous stomach.

Another very proper combination with condurango is:

- (250) Resorcini Resublim. Puriss. 2. (30 grn.)
Decoct. Cort. Condurango
(as above), ad. 180. (6 oz.)
Tablespoonful every two hours.

- (251) Extr. Condurango Fld. 25. (6 dr.)
Tr. Nuc. Vom. 5. (75 min.)
Thirty drops three times a day.

- (252) Acidi Hydrochlor. Dil., C. P. 15. (4 dr.)
Dr. ad vitr. cum epistom. vitreo.
Ten drops in mucilage water after meals, or more frequently.

- (253) Sodii Salicyl. 3. (45 grn.)
Sodii Bicarbon. 12. (3 dr.)
Dr. ad scatulam.
Half a teaspoonful after meals. (For fetor and fermentation.)

A suitable irrigation-fluid for lavage of the stomach is:

- (254) Sodii Salicyl. 10. to 20. (1/3 to 2/3 oz.)
Sodii Bicarbon. 30. (1 oz.)
Aq., ad. 1000. (1 quart)

To be used lukewarm or warmer for lavage (especially when fetor and fermentation exist).

Before being lavaged with medicated fluids, the stomach should be thoroughly emptied and washed by irrigation with two or three quarts of plain, warm water. If hemorrhages have appeared shortly before or if there are symptoms of an approaching hemorrhage, lavage is contra-indicated.

Below are mentioned some of the latest remedies in cancer of the stomach, claimed to retard the cancerous progress and in one way or another ameliorate the condition. They possess, of course, no curative power whatever.

- (255) Chelidonini Sulphurici. 0.6 (10 grn.)
Aq. Amyg. Amaræ. 5. (75 min.)
Aq. Dest. 60. (2 oz.)
Syrupi Rubi Idæi, ad. 90. (3 oz.)

One tablespoonful twice a day, increasing by degrees to 1½ tablespoonfuls.

- (256) Extr. Chelidonii Majoris
Aquosi Inspiss. 1.5 to 5. (23 to 75 grn.)
Aq. Ment. Piper. 60. (2 oz.)
Syr. Simpl., ad. 90. (3 oz.)
Tablespoonful six times a day.

CARDIALGIA.—See Gastralgia.

CATARRHUS INTESTINALIS (enteritis, catarrh of the bowels).—If the catarrh is of an acute character, a proper diet is often sufficient to correct the disorder. If indigestible substances, scybala or toxins are the cause, a brisk calomel purge (10 grn.), with or without powdered jalap (15 grn.), will often prove to be of benefit. If irritation of the bowels is a conspicuous feature, it is better, however, to leave out the jalap. The diet should be mucilaginous soups, beef-teas, milk and toast. All vegetables, fruit, rye-bread, and fat meat are to be avoided. The only drink should be cool tea or water, perhaps with a little good claret. It is very advisable to cover the abdomen with a piece of flannel and keep the patient in bed for a few days.

Internal Medication.—Emulsio amygdal. dulcis, with or without opium. If colic exists, hot applications should be resorted to and, if necessary, a hypodermic injection of morphine administered. Should the disease show subacute tendencies a mild intestinal antiseptic is advisable. Bismuth subgallate is of great value (5 to 10 grn. several times a day); if the kidneys are in good condition, salol (5 to 10 grn. several times a day) will bring good results.

When the catarrh reaches a chronic stage, more radical measures are needed. The origin and cause should always be investigated before treatment is ordered.

Etiologic factors in general are improper dietetic habits, toxins of different kinds, persistent use of strong medicines and drastics, exposure to cold, and dampness. Further, all factors producing or maintaining stasis or hyperemia of the intestinal mucosa; circulatory disturbances in liver and portal disorders, particularly those consequent upon heart, kidney, and lung diseases. Proper diet should be attended to: lean meat, fish, potato-purée, rice and oatmeal gruels, sago soup and beefsteak, are in order, as well as the different predigested and fluid food preparations from reliable makers. Contra-indicated are vegetables, fruit, acid, smoked and very salty fish, too fat meats, rye-bread; milk in bulk and beer should also be avoided. Potatoes in any form except mashed or in purée, olives, celery, pickles, radishes, turnips, cabbage, and similar food-stuffs are absolutely contra-indicated.

If toxic influences affect the bowels, it is always proper, first, to administer calomel either in small, repeated doses or in one large dose, 8 to 10 grn. Intestinal antiseptics may also lead to good and speedy results. Silver salts in pill form (keratin covered), the various salts of bismuth, and

guaiaicol preparations, are very useful. Silver solutions per rectum, as high enemata, are also indicated. Gentle aperients (Apen-ta, Marienbad, Carlsbad, etc.) are not only allowable, but sometimes of great benefit.

If the history reveals intermittent antecedents, the intestinal catarrh may often be improved by administration of antiperiodics (bitter tonics with quinine, arsenic, methylene blue). Diarrhea of similar origin is often checked by good doses of bismuth subgallate, 8 grn. several times a day.

In chronic catarrh of the intestines in which pronounced congestion of the viscus itself and of the abdominal glands exists, and general nervous symptoms complicate the condition, internal medication is most often a failure. The sovereign treatment in such cases is *hydrotherapy*, most successfully combined with gentle general massage and scientifically administered gymnastic movements. Plethoric conditions of inner organs in general are powerfully and lastingly relieved by balneologic measures, but in the chronic intestinal congestions with their complications no remedy compares in results with hydrotherapeutics.

Some elementary balneologic hints may properly be mentioned in this place. The regulation of the body heat is always influenced by application of water to the surface, be it cold or warm, except when of a temperature between 91° to 94° F. Water of this temperature produces no perceptible change in the vital heat, either locally or generally; this means, physiologically speaking, that the vasomotors do not respond to hydropathic stimulation at this temperature. This degree is therefore called the indifference-point. Temperatures above as well as below 91° to 94° F. are hydropathically active and provoke powerful changes in the circulatory apparatus, with corresponding fluctuations in the regulation of vital heat. If exposure to temperatures below the indifference-point is of short duration, the superficial cooling is soon followed by a reaction consisting of vasomotor dilatation; the integumental circulation is now carrying enormous quantities of warm, vivifying blood from the interior, a pleasant subjective sensation of warmth is produced, perspiration is abundant, and by radiation, conduction and evaporation loss of vital heat is highly increased.

If the duration of cold application is longer, the consequent reaction will be stronger and loss of heat considerably larger. Conditions contra-indicating exposure to cold hydrotherapy are anemia, sluggish circulation, organic and degenerative heart disease, nervous temperament, depression, and

symptoms of lessened vitality in general. If in such cases reaction should fail to set in, the circulation may in general be regulated by gentle but continued massage of the skin, slapping of the surface with palm of the hand or rough towels. The therapeutic results brought about by cold are always lasting and more reliable than those obtained by warm water treatment.

Hot applications are only resorted to when very quick effects are desired, but both locally and generally the nervous apparatus is always weakened by this method. A very simple illustration of this fact is afforded by the common attempt to relieve "cold feet" by putting them into a tub of warm water. Everybody who has tried this must confess that the feet soon become cold again, and if the procedure is often repeated more or less serious neuralgic or rheumatic sequelæ are brought about. If the "cold feet" are treated with cold water instead, and then thoroughly massaged or manipulated, the result will be entirely different. Cold baths or applications with proper after-treatment always stimulate and strengthen the nervous system, muscular and glandular organs, increase activity of the lungs, kidneys, and heart, and thus favor the general metabolism and raise the blood pressure. Hot baths or applications act in the opposite direction, depressing activity of nerves, muscles, and glands, thus retarding general metabolism and relaxing the blood pressure.

We mentioned above that internal medication in chronic intestinal catarrh is most often a failure. Symptomatically, however, we are well able to show good results by remedies and dietetic suggestions. In chronic diarrhea we get favorable results by astringents with or without opiates. In colic and tenesmus pharmaceutical agents are also of undoubted benefit. But in palliative treatment the physician should always bear in mind the dangers of narcotics in chronic conditions and rather attempt a slower and harmless therapeutics than at once resort to opiates and similar agents.

The modern bismuth preparations give such satisfaction as astringents and sedatives that they should be given a trial.

(257) Bism. β -Naphthol...0.5 to 1. (8 to 15 grn.)

Dr. tal. dos. No. xv.

One every two or three hours.

(258) Xeroformi (Bism. Tribrom-phenol.)...0.5 to 1. (8 to 15 grn.)

Dr. tal. dos. No. xv.

One every two or three hours.

(259) Bismuth Phosp. Solub. 3. (45 grn.)

Aq. Dest.....135. (4½ oz.)

Syrupi, ad180. (6 oz.)

Tablespoonful every hour or every two hours.

In diarrhea with foul odor the bismuth salicylate is often of great benefit. (0.5—1. several times a day). Modern tannin preparations are also of value in chronic catarrh.

(260) Tannalbini.....0.5 to 1. (8 to 15 grn.)
Dr. tal. dos. No. xv.

One powder every hour or two; even when diarrhea has ceased smaller doses should be continued for a few days.

(261) Naphtalini.....0.2 to 0.5. (3 to 8 grn.)

Dr. tal. dos. No. xv.

One powder in a wafer several times a day.

In catarrh of the colon it is more advisable to administer the remedies (astringents or antiseptics) in solution per rectum as high enemata. For this purpose a common fountain syringe and a stomach tube are the most proper appliances. The injections should be lukewarm and allowed slowly to enter the rectum, patient resting on his back or on the left side. Proper astringent solutions are a 2 per cent. aqueous mixture of salicylic acid; a 1 per cent. solution of tannin, or lead acetate 1:1000.

Against tenesmus:

(262) Chloroformi.....2. (30 grn.)

Vitelli Ovi No. 1.

Aq. Dest.100. (3½ oz.)

For one enema.

(263) Cocainæ Hydrochlor.....0.03 (½ grn.)

Ext. Opii.....0.06 (1 grn.)

Ext. Hyoscyami,

Ext. Cannab. Ind., aa....0.15 (2½ grn.)

Ft. ope. Butyr. Cacao. Supposit. unum. Dr. tal. supposit. No. vi.

Insert one twice a day.

Other remedies of value in chronic intestinal catarrh are:

(254) Acidi Lactici.....6. (1½ dr.)

Aquæ Dest.....90. (3 oz.)

Syr. Rub. Idæi, ad.....120. (4 oz.)

Tablespoonful every hour. A very palatable and elegant mixture.

(265) Bismuthi Methylen-Digal-
latis.....0.3 (5 grn.)

Dr. tal. dos. No. xii.

One powder in a wafer every three hours.

(266) Catechu Pulv.....0.5 (8 grn.)

Opii. Pulv.....0.03 (½ grn.)

Sacchari Albi.....0.3 (5 grn.)

Dr. tal. dos. No. xii.

One powder every two hours.

(267) Tr. Catechu,
Tr. Cinnamomi, aa.....15. (½ oz.)

Twenty drops in peppermint tea every two hours.

CATARRHUS LARYNGIS. See Laryngitis.

CATARRHUS PHARYNGIS (simple angina; inflammation of the pharynx).—If the etiological cause is removed and precautions against further exposure taken, the acute pharyngeal catarrhs are in general successfully treated by simple house remedies and hygienic measures. Painting of the

pharyngeal mucous membranes with weak antiseptics and astringents, or the use of proper gargles, will often check a subacute catarrh. The causal factors of the different irritations (smoking, drinking, exposure, and overwork of the throat) should be carefully removed. Proper formulas for acute or subacute catarrh are:

(268) Acidi Tannici.....2. (30 grn.)

Acidi Carbolici.....1.5 (24 grn.)

Morphinæ Hydrochlor.....0.12 (2 grn.)

Glycerini,

Aquæ Rosæ, aa.....15. (½ oz.)

Apply with a small brush four times a day.

(269) Tr. Guaiaci,

Tr. Cinch. Comp.,

Mellis Despum., aa.....12. (3 dr.)

Potassii Chloratis.....4. (1 dr.)

Muc. Acaciæ,

Aq. Rosæ, ad.....120. (4 oz.)

Use as a gargle (for three or four minutes each time) every hour.

(270) Sodii Biboratis,

Potassii Chloratis, aa.....6. (1½ dr.)

Glycerini.....25. (6 dr.)

Ext. Hydrast. Aquos (Lloyd) 60. (2 oz.)

Aq. Dest., ad.....180. (6 oz.)

Use as a gargle several times a day.

(271) Ichthyoli.....gtts. c (100 drops)

Glycerini.....30. (1 oz.)

Acidi Carbolici.....1.5 (24 grn.)

Aq. Dest.....240. (8 oz.)

Use as a gargle every two hours.

If the catarrh has reached a chronic stage, more radical measures are of course needed. First, all irritating causes should be eliminated. There should be daily evacuation of the bowels, cold sponging, with rubbing of neck and shoulders, chest and arms, every morning.

Three different forms of chronic pharyngeal catarrh are to be observed: Retronasal, dry and hypertrophic. The hypertrophic catarrh, with its adenoid proliferations, is no object for medical treatment, and patients with this disorder should have the adenoids removed. The retronasal catarrh may be successfully treated by local applications, either by means of nasal douches or by insufflation.

The best nasal douche is undoubtedly a 1 per cent. solution of salt (NaCl) and sodium bicarbonate of the body temperature. Solutions of zinc sulphate (1:1000) are also highly recommended. Different remedies used in atomizers, or, better yet, nebulizers, often give good results.

If insufflation is used, the remedial substances should be as volatile as possible so that they may thoroughly cover the mucous membrane and also reach the distant parts of the retronasal spaces. In pharyngitis sicca, the salt solution mentioned above is also of benefit. Solutions of silver nitrate

(1: 10 or 20), or argentamine (2 to 5 per cent. solution), or iodine-glycerin should be applied after thorough cleansing of the mucous membrane.

- (272) Iodi Puri.....0.5 (8 grn.)
Potassi Iodidi.....2. (30 grn.)
Glycerini20. (5 dr.)

Dr. ad vitr. nigr. epist. vitro.

To be applied with brush or cotton swab once a day.

Another good application is:

- (273) Tr. Iodi.....10. (2½ dr.)
Acidi Carbolici.....0.3 (5 grn.)
Acidi Tannici Superioris. 2. (30 grn.)
Glycerini, ad.....60. (2 oz.)

Dr. ad vitr. nigr. epist. vitro.

Apply two or three times a day.

CATARRHUS VENTRICULI ACUTUS (gastritis acuta; acute dyspepsia; acute catarrh of stomach).—Acute dyspepsia has numerous causes; the most frequent are ingestion of unfit or unchewed food and excesses in eating or drinking. If an attack of acute dyspepsia is followed by spontaneous vomiting, the acute indigestion will soon disappear. Proper diet and rest of the organ will soon restore its power.

If, on the contrary, emesis does not take place, emetics should be administered as soon as possible, preferably apomorphine hypodermically (¼ grn.). A warm, abundant lavage of the stomach by means of the soft tube is of great benefit and should always be resorted to if there is suspicion of alcoholic or other poisoning. The use of the stomach-tube is contra-indicated if there is the least suspicion of ulceration of the stomach or possibility of corrosion of the mucous membrane from one cause or another. A proper solution for lavage is a weak thymol and boracic-acid (see 274) mixture. Calomel in medium doses (3 to 8 grn.) exerts a very calming influence on the irritated mucous membrane, has also a relieving effect on the bowels, and may sometimes properly be followed by a saline laxative. Diluted muriatic acid (C.P.) in 15 to 30-drop doses, in mucilaginous vehicle or in half a wineglassful of water, is often of great value in acute dyspepsia with pronounced flatulence and pyrexia. Resorcin (see 281), creosote, and silver salts in solution (281, 282) are also of high value in acute dyspepsia, especially when accompanied by vomiting and eructations. The main points to observe after acute indigestion are, of course, rest for the stomach (twenty-four hours), and thereafter proper diet—mucilaginous soups, cold milk or strained oatmeal, cream toast, etc. Predigested and peptonized foods are in these cases of great value. If nausea persists,

small pieces of ice, cold seltzer water, and small doses of iced champagne should be used.

- (274) Thymoli.....0.5 (8 grn.)
Acidi Borici.....16. (½ oz.)
Aquæ, ad.....500. (1 pint.)

Use lukewarm as lavage. (The stomach should be thoroughly cleansed, before using this solution, with physiological salt solution.)

- (275) Resorcini Resublim.....2. (30 grn.)
Tr. Cardam. Comp.....3. (45 min.)
Aq. Dest., ad.....120. (4 oz.)

Teaspoonful every two hours.

- (276) Bismuthi Subnit.,
Pulv. Rad. Rhei, aa.....5. (75 grn.)
Natrii Bicarbon.....20. (5 dr.)

Dr. ad scutulum.

One-half teaspoonful or more three or four times a day.

- (277) Papaini.....0.15 (2½ grn.)
Taka Diastase.....0.2 (3 grn.)
Ext. Gentianæ Pulv.....0.12 (2 grn.)
Elaeosacchari Menth. Pip.0.3 (5 grn.)

Dr. tal. dos. No. xv.

One powder in a wafer three or four times a day.

- (278) Tr. Gentianæ Comp.....25. (6 dr.)
Acidi Hydrochl. C.P.....5. (75 min.)

Twenty drops in a wineglassful of sugared water three or four times a day or oftener.

- (279) Calomel.....0.3 to 0.6 (4½ to 9 grn.)
Sacch. Lactis, q. s.

To be taken at once with a little water.

If evacuation is slow to follow, use good doses of some aperient water until result is obtained. If pain accompanies the indigestion, counter-irritants over the abdomen or hot-water bags may be of benefit. Narcotics should be resorted to only after total failure with harmless agents.

A very effective remedy in such a case is:

- (280) Aq. Amygd. Amar. Conc.....15. (½ oz.)
Morph. Hydrochl.....0.15 (2½ grn.)
Cocainæ Hydroch.0.12 to 0.15 (2 to 2½ grn.)

Fifteen drops three times a day.

For persistent vomiting:

- (281) Resorcini Resublim.....1. (15 grn.)
Creosoti Puriss.gtts. x. (10 drops)
Aq. Chloroformi, ad.....240. (8 oz.)

Teaspoonful every hour.

- (282) Argent. Nitr.....0.06 (1 grn.)
Aquæ Fœniculi.....50. (2 oz.)

Dr. ad vitr. nigr.

Teaspoonful three or four times a day.

- (283) Bismuthi Subnit.....3. (45 grn.)
Creosoti (Merck)....gtts vi (6 drops)
Elix. Lactopept., ad.120 (4 oz.)

Teaspoonful every half or every hour.

- (284) Codeinæ.....0.015 (¼ grn.)
Bismuthi Subnit.....0.5 (8 grn.)
Cerii Oxalatis.....0.2 (3 grn.)
Magnes. Calcin.....0.5 (8 grn.)
Ol. Menth. Pip.....0.03 (½ drop)

M. ft. pulv. No. 1. Detur in chart. cerat. Tablets doses. No. vi.

One powder three times a day.

(TO BE CONTINUED)

[Translated and Condensed for MERCK'S ARCHIVES]

THE MEDICINAL TREATMENT OF MALIGNANT TUMORS

By Dr. Von Boltzenstern

UNDOUBTEDLY the best treatment of malignant growths is their radical extirpation. This, however, is not always feasible, and a very large proportion of cases must be left to the resources of medical treatment. Fortunately, recent years have brought us new and grateful methods, chiefly of bacterio-therapeutic nature, by means of which life may be prolonged and made more bearable.

Although the infectious origin of malignant growths is not as yet established beyond doubt, yet this etiology is very probable, and has been the starting-point of numerous therapeutic experiments, which may be grouped under two headings: (1) the specific or isopathic method, and (2) the non-specific, antagonistic method.

(1) *The Specific Method.*—This method may take its starting-point from the specific micro-organisms of the malignant growth. As yet these are not known with any degree of certainty. The *nectria ditissima* has been supposed to be the cause of vegetable and animal growths, and, accordingly, a sort of infusion of nectria called nectrianin has been produced and employed subcutaneously for the cure of malignant tumors. A reaction sets in, consisting in a rise of temperature, chills, thirst, and polyuria, the symptoms rapidly subsiding. The therapeutic results are said to be good: the pain is relieved, the bleeding and fetor cease, and the tumor is checked in its growth, becomes hard, and shows a tendency to scarification. [The very latest reports are of an unfavorable nature.—ED.] Other similar remedies have been proposed, but there is no unanimity in the opinions concerning them.

Another starting point for therapeutic experiments is the tissue attacked by the supposed parasite. Attempts are made to obtain the respective toxins or antitoxins. Thus, a toxin of cancer has been produced, which is used by injection beneath the skin and is said to cause a softening and, finally, an absorption or casting off of the cancerous growth. Others consider the toxin as worthless, and the same verdict may safely be passed on the antitoxins of cancer and sarcoma, which were reported to possess curative properties similar to the toxin.

(2) *The Non-Specific Method.*—This consists in treating the patient with toxins or serum obtained without regard to the

specific microbe causing the malignant growth. It has been conclusively shown that erysipelas exerts a curative influence over malignant neoplasms, and artificial erysipelas has been induced with this purpose in view. However, fatal cases occurred under this treatment and it was abandoned.

In order to obviate the dangers of erysipelas, the active substance of the erysipelas cocci has been obtained and employed as a curative agent. Experiments of this kind culminated in the discoveries and improvement of the method by Coley, who succeeded in obtaining a curative toxin from cultures of streptococci. The fluid is used hypodermically and produces a general reaction, which ends in a rapid necrobiosis of the neoplasm. Several cases of undoubted cure are credited to this method. However, there are dangers lurking even here, and the consensus of opinion seems to be that the toxin-treatment is applicable only to cases of sarcoma, as an *ultimum refugium*.

Analogous to the toxin method is the serum method. While the former makes its experiments in the test-tube, the latter employs the animal organism for this purpose. From the blood of sheep a cancer serum has been obtained. The sheep are immunized against erysipelas by large doses of erysipelas-coccus cultures, and their serum is then employed in the treatment of cancer. The injections were made into the neoplasm itself, and a localized, so-called aseptic erysipelas produced. A softening of the growth took place in some cases. However, the method, in spite of many attempts to improve and perfect it, remains as uncertain as its predecessors.

Until the etiology of malignant growths is conclusively established, we can hardly expect positive results from bacterio-therapeutic methods. We are thus thrown upon the resources of medicinal treatment. The name of all remedies recommended in the course of years is legion. It is useless to enumerate them all.

In the local treatment of inflamed, painful cancers and ulcerated tumors, the application of antiseptic dusting powders is of value. Boric acid, salicylic acid, amyloform, orthoform, resorcin, and others are employed. One of the most valuable is iodoform. The fetor of malignant neoplasms also necessitates the use of antiseptics, such as creolin or mercury bichloride, or plasters of zinc, bismuth, boric acid, etc. Caustics are indicated in bleeding and decomposing tumors, and the zinc chloride in solutions of 20 to 80 per cent.

seems to enjoy the preference of many surgeons. Recently formaldehyde in strengths of 10 to 30 per cent. has been well spoken of as a dressing for bleeding cancers.

One of the oldest remedies against malignant neoplasms is arsenic. Taken internally, in the form of Fowler's solution or in pills, it is often productive of undoubted benefit. The drug must be administered for long periods of time in order to obtain its palliative effects. Besides the internal administration, arsenic has been exhibited by means of parenchymatous injections into the tumor. It is certainly remarkable and speaks in favor of arsenic, that once introduced, it has never since been abandoned in the treatment of malignant growths. At present its local application in the form of a paste is being resumed.

It has been observed that arsenic, when brought in contact with cancerous tissue, causes it to ulcerate, while the healthy skin is left unaffected. This property of the remedy has been utilized for curative and diagnostic purposes.

A mixture of arsenous acid, 1 part, with alcohol and water, of each 75 parts, is employed. When this mixture is applied to cancerous tissue, a dark-brown or black crust forms, which cannot be removed without causing bleeding. Brought in contact with healthy tissue, arsenic never produces this black crust, but a light yellow one. The diagnostic bearings of this fact are evident. For therapeutic purposes arsenic is used as follows: In case of a cancerous ulcer, the surface must first be cleansed, avoiding hemorrhage, if possible. The solution mentioned above is then painted on with a camel's-hair brush, and the ulcer allowed to dry. If the pain is not severe, a second application is made five minutes later. Should the patient complain of great pain, the desiccation may be encouraged by blowing on the ulcer with a double-bulb atomizer. The ulcer is to be left exposed to the air, without any dressing. On the second day a brown or black crust will have formed. The crust is not to be removed, but painted over daily with the same solution. The crust grows thicker and thicker, and sometimes the entire diseased tissue is thus transformed. The thicker the crust, the more arsenic can be applied. Solutions of 1:100 or 1:80 may be substituted for the original one. The crust is detached in time and falls off, leaving a raw surface. This wound is again lightly painted over with the original solution, and if a yellow, detachable crust is formed, it is a sign that the cancerous tissue has been removed and the wound may be allowed to heal. If, however, the

new crust is brown and adherent, the paintings must be repeated until all diseased tissue is destroyed.

Non-ulcerating cancer, if covered with a thin layer of skin, may be transformed into an ulcer by scratching the epidermis off, and then treating as above. This method is applicable only to superficially located cancers, before the lymphatic glands are affected; that is, in the earliest stages of the growth. The earlier the treatment with arsenic is commenced, the better the prospect of a complete cure.

As a palliative measure, the same method is very serviceable in ulcerating cancers, with their horrible stench. The fetor disappears with the formation of the crust.

Caution is necessary in applying this method to cancer of the mucous membranes, on account of the possible intoxication. Care should be taken to paint only the diseased tissue, and the painted area should not come in contact with healthy mucous membrane for at least one hour. Extra care is necessary in the vicinity of the eye.

The method is less applicable to the treatment of sarcoma.

In place of arsenous acid some authors employ its compounds, chiefly sodium and potassium arsenate. The salts are more easily and rapidly absorbed, and the danger is thus greater when they are used. Cacodylic acid has also been substituted for arsenous acid. To render the applications of arsenic painless, orthoform has been added, but all these improvements leave the original principle untouched.

[Written for MERCK'S ARCHIVES]

GONORRHEAL RHEUMATISM

By J. D. Westervelt, M.D., of Shreveport, La.

THE etiology of this disease has for many years given rise to much discussion without materially increasing our information on the subject. The disease is considered by many able physicians as a toxemic effect of the gonococcus upon the general system, either by its presence in the circulation or that of the toxins of this micro-organism. They maintain that the specific urethritis is the local manifestation of the micro-organism, and the accompanying urethritis is a localized product of a general infection. They go as far as to claim that the synovitis is in no way related to rheumatism, and even discard the name under which the disease is generally known, calling it gonorrheal arthritis instead of gonorrheal rheumatism. The reasons set forth for such views are, that the articular inflammation concurring with gonorrheal ure-

thrititis is different from that of ordinary rheumatism. These writers seem to ignore what is universally conceded, that the clinical features of a mixed disease are entirely different from the typical features of the disease forming the complication. The fact that an articular inflammation associated with gonorrhea is dissimilar to an ordinary synovitis, furnishes no grounds for believing that these conditions have no interrelation. It is claimed by these authorities that gonorrheal urethritis causes the articular disease, and yet they cannot explain its mode of action in producing the two forms of inflammation. If the pyemic theory is accepted, why are the joints alone involved? Why are not other tissues invaded? Why is the arthritis sometimes mono-articular and sometimes poly-articular? Why should the large joints be more liable to invasion than the small joints, and why is the knee joint so much more frequently involved than others?

A general pyemic infection should not be so restricted in its operations. It is claimed in behalf of the pyemic theory, that gonorrheal arthritis does not require for its production the usual exciting causes which invite rheumatic attacks, but can any one name any special exciting causes which invariably give rise to an attack of rheumatism? Gonorrheal rheumatism occurs most frequently in the early part of middle life; so does rheumatism. It occurs more frequently in males than females; this is also the case with rheumatism. Gonorrheal rheumatism occurs in only about 2 per cent. of gonorrheal cases. If the gonococci or their toxins provoke the articular inflammation, it seems strange that they do so in only one or two cases in a hundred of gonorrheal urethritis. According to the testimony of many trustworthy observers, the same forms of articular inflammation have been known to accompany urethritis not produced by the gonococcus. This weakens the theory of pyemic infection and strengthens the contention by many writers of concurrent rheumatic disease as a dominating factor.

Furthermore, it is very rare to find pyemia or septicemia resulting from inflammation of mucous membranes, and if it should result, other contiguous structures would be likely to suffer as well as the joints.

It is true that the pyemic theory is now more generally accepted than any other, but the clinical evidence upon which it rests will not bear a critical examination. It would seem, in the absence of any positive evidence to support the theory of pyemia,

that accidental rheumatism as an intercurrent complication would be a logical inference in the determination of factors in gonorrheal arthritis. There is much more evidence in favor of this theory than that of pyemia, but the tendency of most writers to reason from the standpoint of an unwarrantable bias leads them to ignore every argument which refutes the theory of gonorrheal inflammation. They claim that the gonococcus has been found in these inflammatory lesions, but they overlook the fact that in the majority of cases it has not been found, and furthermore its presence does not prove it causes the lesion.

The writer does not claim that all cases of arthritis in gonorrheal disease are rheumatic, nor that the gonococcus never exerts any provocative influence over the arthritic inflammation. The main contention of this paper is, that the variegated clinical history of rheumatism shows that it is a potent factor in many localized lesions, and there is no justification in a sweeping denial of its relationship to gonorrheal arthritis. The symptoms of gonorrheal rheumatism during the course of gonorrheal urethritis are: a sense of uneasiness, aching, and stiffness or lancinating pain in one or several of the joints; the knee is oftener involved than any other articulation, especially the left knee.

Other joints may become consecutively or simultaneously involved.

The articular inflammation usually develops in the later stages of gonorrhea and often after the urethral discharge has almost entirely ceased. The articular symptoms arise gradually without any alteration in the external appearance of the joint. As long as the affected part is at rest there is not apt to be much pain, but the least movement provokes it at once. The inflammatory process is of a subacute type, and it never announces its advent with a chill, as generally happens in pyemic attacks. When the inflammatory attack reaches its culminating point the joint may become distended and filled with considerable effusion. The articular inflammation may run an indefinite course and last weeks or months. In these cases, if the effusion is of a fibrinous character, ankylosis may result. In the treatment of this disease we must not lose sight of the fact that we have to deal with a mixed form of disease. We have the gonorrheal element confronting us, and we also probably have a rheumatic element to claim our attention. Besides these conditions we may also be required to treat the general health of the patient. If there is a urethral discharge, it must be treated; if there is a

rheumatic condition, it must be treated; if there is an impaired state of the health, this also must engage our attention.

The local treatment of the articular inflammation will not differ materially from that of any inflammation of the joints. We must allay inflammation, stimulate absorption of effusions, and restore normal functions of the articulation. There are many methods of accomplishing these objects. For the urethritis we may resort to instillations of potassium permanganate. Internally we administer some good cordial of cod-liver oil, with 5 grains of potassium iodide in each tablespoonful; a tablespoonful to be given four times a day after meals and at bed-time. The potassium iodide may be increased or diminished according to the requirements of the particular case. This disease, with its painful accompaniments, has a depressing effect on the vital processes, and rapidly impairs nutrition. The potassium iodide removes the cause of the pains by its eliminating properties, and the cod-liver oil improves nutrition and tones up the nervous system. With such a constitutional corrective, and suitable diet, and mild antiseptic injections or irrigations, this disease is readily subdued. Besides the general restorative action, a good cod-liver oil cordial renders the urine less irritating to the inflamed mucous membrane of the urethra.

THE DRUG TREATMENT OF CATARRH¹

By Henry Beaman Douglass, M.D., of New York

WHEREVER surgical treatment has been substituted for medicinal methods the results show much improvement in the handling of diseased conditions. There seems to be a limited field for drugs except in those organs which are beyond the reach of surgery. Nowhere has surgical procedure so completely taken the place of drugs as in the treatment of diseases of the upper respiratory tract. The pioneers of rhinology toiled year after year perfecting methods of examination and application without obtaining any particular results. It is within the memory of many laryngologists when a mirror view of the nasopharynx was rare and excited much admiration. Many men devoted years to the acquisition of a certain technique in making nasal and laryngeal applications and many of them after years of conscientious work retired from the laryngological field discouraged and disappointed with their results. The great advance has been made in our specialty since surgery was

introduced into it. One eminent man in this city labored for years in the throat department of one of our clinics, and finally retired discouraged because he could see no results from his work. This was before the day of surgical procedure and the discovery of cocaine. The introduction of this drug into the work of the laryngologist undermined the false structure of knowledge that had been accumulating for years, and from its ruins the modern practice has developed.

With the introduction of surgery the drugs so long used, owing to the usual reaction which always follows the introduction of any new method, were almost completely discarded. Some of those old remedies have been saved from the ruins, and to-day hold an honored place in the pharmacopœia of rhinology. To these few old and valued remedies not many have been added since. There remain about twelve venerable remedies which have a special beneficent action on the respiratory mucous membrane, to which have since been added cocaine and suprarenal. It is to the discussion of these medicinal agents that this paper is devoted, with the intent of making clear the conditions of diseased nasal and laryngeal mucous membrane which may be treated without surgical measures and in which good results may be expected from the use of drugs.

Irrigation.—In spite of the fact that the use of solutions in the nose is attended with dangers, irrigation is important to remove secretion and bacteria, and to properly cleanse the nose. There can be no doubt that douching is justifiable as a surgical procedure. Normally the nose is an unclean cavity and investigators have determined 16 varieties of micro-organisms which are found in the nose, amongst which are the staphylococcus, streptococcus, pneumobacillus, and the diplococcus of meningitis. Furthermore, these bacilli grow in the mucous culture media and flourish upon the albumen, serum, and cell detritus. The nose is therefore a depot from which infections may be conveyed after any operative procedure. Hence it is rational that the cavity should be treated as any other infected cavity is treated, and one of the best methods of mechanically removing the culture medium is by washing. The dangers of nasal douching have been pointed out by Dr. D. B. St. John Roosa, and a reaction set in against the douche, so that it becomes almost a criminal procedure to make use of it. It must be acknowledged that douching the nose is not without dan-

¹ Read before the N. Y. Post-Grad. Clin. Soc. *Post-Grad.*, Feb., 1902.

ger of setting up an inflammation of the middle ear, which may become purulent, and later extend to the mastoid cells, with the conditions incident to this affection. There is also danger of septic matter being forced into the accessory sinuses, with resultant inflammation. These dangers must be clearly pointed out, and yet douching of the nasal cavity can safely be done and the dangers avoided by careful observance of certain principles which will be spoken of later, while indicating the way in which the douche is to be used. Irrigation is too valuable a remedial agent to be dropped from our list.

It is necessary that the irrigating fluid used in the nose should have: (1) a temperature either warm or hot. Cold solutions are never justifiable in the nose except in some cases of hay fever, where ice-water douches seem beneficial; (2) a determined specific gravity; (3) a certain direction; (4) a low injecting force; (5) a certain alkalinity; it is also requisite (6) that the patient's head be strongly flexed, and (7) the obstructed side be injected; (8) that the patient avoid swallowing or inspiring any of the liquid, and that blowing the nose be postponed as long as possible after the douching. It is absolutely essential that the temperature of the nasal douche be 102° or 106° F. Lukewarm water does not have the proper astringent effect upon the mucous membrane. If the water is too hot it leaves a burning and smarting sensation for some time after its application, which is not relieved even by the douche being of the proper specific gravity. The proper specific gravity is best obtained by the addition of salt; a teaspoonful to the quart of water is about the correct amount, although sometimes in individual cases the amount has to be increased or diminished if this solution produces smarting. However, it may be stated that a solution of this density at a temperature of 106° F. introduced into the nose will produce absolutely no burning, smarting or irritation. The reason for this is that if the solution has a lower specific gravity than the blood, as soon as the douche fluid comes in contact with the mucous membrane, there is a flow of serum by osmotic force *from* the vessels into the superficial tissues, the tendency being at the instant of contact to increase the specific gravity of the weaker solution. If the specific gravity of the irrigating fluid is too high the reverse flow takes place *into* the vessels. In either case the result is an oozing in the direction of the less dense fluid, which produces a smarting, burning sensation in the

membrane. This is so well known that it seems superfluous to mention it again, but it is never amiss to bring vividly before the readers a principle upon which so much depends. As to the force and direction of the current, if irrigation is used in an upward direction so the irrigating fluid impinges against the middle turbinate body and outer nasal wall, it is more apt to enter the frontal sinus than if directed backward parallel with the floor of the nose. The injections should be made with little force.

In the choice of methods for irrigation we may use the fountain bag, the soft catheter with a syringe, the ordinary atomizer or Sass spray, snuffing water into the nostril, or a specially devised douche bag. The most common method is the use of the fountain bag. In using this it must be remembered that the base of the bag must not be higher than six inches above the patient's head when it is well bent forward. The disadvantage of the fountain bag is that too small a stream is emitted through the average nozzle tube; if the opening were about three times the usual size the fountain bag could not be improved upon.

An excellent way of irrigating the nostril, especially in children, is by means of a soft catheter, No. 6-12, attached to an ordinary piston syringe. The catheter is lubricated and gently introduced into the nostril until the naso-pharynx is reached; it is then drawn forward one-half an inch; the head is tipped well forward; the patient breathes through the mouth. Irrigation is then performed under low pressure of the piston. This method obviates the danger of forcing the solution into the accessory sinuses. Many rhinologists use only the spray, which is the least satisfactory of all, since the pressure is almost always irritating, and after operations the mechanical force is enough to lacerate the parts and retard healing. It is less satisfactory in removing secretions and is not grateful to the patient. It is also difficult, if not impossible, to keep the fluid from a spray at the proper temperature. This method is safely used in children.

When the method by snuffing the water into the nostril is used the irrigating fluid is put in a conveniently wide vessel, over which the head is bent and the fluid inspired into the nose and allowed to escape through the mouth. In this method there is some danger to the Eustachian tubes.

The specially devised douche bag consists of an ordinary rubber ball holding six ounces, with a curved tube leading from the bulb. This should be half an inch in

calibre, and the tube terminate in a hard rubber end made to accurately fit the nose. With a bulb of this size it is possible to allow a large stream of irrigating solution to enter the nose under a very low pressure.

The patient's head should be bent well forward upon the chest and the mouth should be opened, and if necessary, the breath should be held during the irrigation, or respiration should take place through the mouth. Besides the rules mentioned, it is imperative that the obstructed nostril must be the one that is irrigated, so that blocking may not occur. If the douching is carried out according to the rules laid down, there is absolutely no danger to the Eustachian tubes; on the other hand, if the patients hawk and spit and swallow there is apt to be a forcing of liquid into the Eustachian tubes, where consequent inflammation may be excited.

It is important to wash the nose and nasopharynx while the patient is unconscious from the anesthetic before the operation is begun. This is done by removing the ether cone, and rolling the patient to the edge of the couch or table. He rests on one shoulder and breast, the face toward the floor. In this position an ordinary piston syringe can be used and the nares irrigated, after which the patient is returned to the original position and the operation can be performed. Since this little detail has been attended to in the author's hospital and private work he has seen much less reaction and inflammation following operations, and the results have been generally more satisfactory.

When the douche is properly used it is the means of accomplishing a certain end in the treatment of nose and throat catarrh. As a regulator of circulation it relieves congestion, and is valuable in acute and chronic conditions. It also facilitates absorption of exudate poured into the lymphatic and interstitial spaces, and of serous exudate in cases where there is a tendency to polyp formation. The flow of water running through the nose also acts by its suction force upon the accessory sinuses, aiding drainage, especially of the frontal sinus and ethmoid cells. It is also by means of the hot-water douche that we are able to prepare a proper aseptic field for operation. When the water is used quite hot it also has a hemostatic action and is useful to check small hemorrhages. These results are practical, and it is very evident that the douche is indispensable in nasal treatment.

Other remedies still used in rhinology

are the *mineral astringents*. Among these we have a choice of four which have stood the test of time and experience; namely, silver nitrate, zinc chloride, zinc sulphate and the iron salts, one of which is an iron alum. To these we may add one vegetable astringent, tannic acid. It is true that there are many other drugs having astringent properties, but these named have stood a long and satisfactory test, and must be classed not only as valuable but as indispensable.

The preparations of silver have been and are a most useful tool in the hands of the rhinologist and the laryngologist. The pure stick of silver nitrate has a powerful effect as a cauterizant, and there are conditions where its use is justifiable.

Silver nitrate fused upon a probe will quickly relieve catarrhal discharge dependent upon granulations. The solid stick may also be used in cases of atrophic rhinitis where ulcerations are present at the bases of the scabs. It is applied after the removal of the scabs. It is of great value also in exuberant granulations after operations. Solid silver nitrate is rarely used in the pharynx. It may occasionally be justifiable to cauterize a few lymph follicles on the posterior pharyngeal wall in follicular pharyngitis, but the necessity for this is rare, other methods being more usually satisfactory. In the larynx the stick should never be used except on ulcers, where its use is most satisfactory and in the author's experience it is far superior to lactic acid. In the larynx, after cocaineization, the silver is applied, fused on a probe, to the ulcerated area, care being taken that only the ulcer is touched. Under the silver treatment of the throat the author has seen cases of tubercular laryngitis get well in a few weeks, the discharge ceasing and the ulcers healing in the kindest way.

Strong silver-nitrate solutions, 40 or even 60 grn. to the ounce, are superficial cauterizants and are seldom used for the relief of nasal catarrh. Occasionally they are substituted for the stick and act much in the same way. They should never be applied to an extensive area of the mucous membrane of the nose. Solutions of 20 to 30 grn. to the ounce are sometimes useful to stimulate in cases of atrophic rhinitis and occasionally in acute rhinitis. This solution, if it drips into the larynx, will cause a laryngeal spasm which frightens the patient and the spasm may persist until unconsciousness supervenes; relaxation occurs with unconsciousness. Solutions of 1 to 5 grn. to the ounce have in the author's experience almost entirely replaced those of 5 to 10

grn., the weaker strength being quite sufficient for a sensitive membrane. This solution is useful in acute or chronic rhinitis where it is desired to modify or correct the discharge, make it less abundant, and finally to check it.

Solutions of *zinc sulphate*, 5 grn. to the ounce, and of *zinc chloride*, 2 grn. to the ounce, are valuable in discharges from the accessory sinuses, these two solutions giving the best results in frontal sinus or antrum cases.

Solutions of *iron* have in the past been very popular, but experience has led to their practical exclusion with the exception of the iron alum: *ferri et ammonii sulphas*. This in solution of 20 to 30 grn. to the ounce may be used in pharyngeal and laryngeal conditions where chronic inflammatory changes have resulted in slight hypertrophy of the membrane. This solution is also of value in cases of singer's nodules on the edges and upper surfaces of the vocal cords. Here may also be mentioned *alumnol*, a naphthol alum, which in 20 grn. to the ounce solutions should be used in the larynx in case of relaxed mucous membrane, where there is no hypertrophy of the folds.

Three solutions of iodine known as *Mandel's solutions* have been used for the cure of catarrh, and though not now so frequently employed there is certainly a definite action to be ascribed to them in certain cases of rhinitis. The solutions are Nos. 1, 2, and 3, contain 5, 7, and 12 grn. of iodine, in 3 dr. each of glycerin and water, enough potassium iodide being used to facilitate solution of the iodine. This preparation is supposed to exert a resolvent alterative action on the mucous membrane, stimulate proper secretion, excite the blood vessels to good circulation, and prevent deposition of the edematous material in the connective-tissue interspaces, in this way producing such a tonic effect upon the mucous membrane that those changes consequent upon hypertrophic inflammation will be prevented. These are used first in the weaker solutions, afterwards increasing the strength to the strongest. They are used in the preparatory treatment for operations, it being claimed that they vitalize the membrane, so that there is better healing and less liability to sepsis. It is a convenient way to stimulate the mucous membrane. It is of some value in atrophic rhinitis, in chronic catarrhal conditions of the pharynx, and particularly in granulating or follicular pharyngitis. These solutions have become less popular since the introduction of ichthyol, but are valu-

able in cases of chronic laryngitis, sluggish membrane with vitiated circulation, thickening of the ventricular bands, and persistent chronic dilatation of the blood vessels over the vocal cords.

Ichthyol has many disadvantages as well as many points of value, the latter so far outweighing the former that it remains a valuable remedy in the hands of many, since it seems to secure results that cannot be obtained by any other remedy. If an ichthyol could be obtained without color, odor or staining properties it would be ideal. The effects of this drug depend on the strength used: pure ichthyol produces a slight burning sensation in the throat and nose, and leaves a disagreeable bitter taste, excites immediate secretion of quantities of watery mucus and induces gagging and occasionally vomiting. It does not adhere readily to moist membrane, and hence is better used in solution. Its effects are stimulating, antiseptic, alterative, antiphlogistic, and corrective. Solutions of 20 grn. to the oz. first cause hyperemia, and this increases with the strength of the solution used. Concentrated solutions produce almost acute coryzal discharge with irritation which will last nearly twenty-four hours. In solutions of 20 to 60 grn. to the ounce it is stimulating. As an antiseptic it is ideal, acting so as to be not only bactericidal when applied to mucous membrane, but it acts well in cases of erysipelas and cellulitis of the skin. Its alterative and antiphlogistic properties are of less importance. It is a corrector of a vitiated circulation, and it is without a peer in producing contraction in chronically congested area. It is sometimes used for its tonic effect, and a healing membrane will take on a healthier appearance after its use; congested areas disappear, chronic enlargements of blood vessels are corrected, secretion is altered and exudate disappears when it is used. This is less true of hypertrophic cases purely than of those which are slightly in the atrophic stage. One of the most important properties of the drug is its power to lessen the exudation of leucocytes. It is the best remedy with which to saturate pledgets of cotton to introduce into the nose upon healing surfaces after operation to prevent formation of synechiæ, and when nasal discharge persists from granulation ichthyol will cause its entire disappearance. The most brilliant results are seen in the forms of atrophic or dry catarrh; it destroys the germs present in the nose, heals the minute ulcers, causes cicatrices to form, thereby lessening the tendency of scabs to

adhere. It corrects purulent secretions by preventing exudative leucocytosis, and brings about an activity of the mucous glands, producing abundant and less viscid mucus. It should be used in watery solutions, 10 to 60 grn. to the oz. with a spray. In atrophic cases glycerin solutions may be used, as the action of the glycerin is also desired.

Ichthyol is best mixed with petrolatum, not lanolin, 40 grn. to the oz., with 5 grn. of menthol to lessen the odor. In the larynx ichthyol has not been so satisfactorily used as in the nose.

Cocaine hydrochlorate must be considered because of its desirable effects upon the secretory glands of the nose. Of course it is out of the question to use it regularly in any catarrhal condition, nevertheless it is very beneficial in certain acute catarrhal conditions, and in hay fever. It must not be forgotten that the danger of the cocaine habit must be guarded against, and patients should never be given cocaine to use at home. An exception may be made in individual cases of hay-fever, where there appears no tendency to habit formation. Cocaine checks secretion for a long time, and when used fairly often it is possible to keep a morbid secretion under control. From its power to cause contraction of the blood vessels and reduce congestion and shrink the tissues close to the bone, and also of controlling secretion, it is useful before making medicinal applications, allowing the application to reach all desired parts, and preventing its being washed away by secretion too soon. It is justifiable to use cocaine whenever acute congestion produces so much swelling that application and examination are interfered with. The peculiar sensation of a lump in the throat produced by cocaine in the larynx makes it undesirable to use in pharyngitis or laryngitis.

Suprarenal gland preparations made by Armour & Co. are the best, says the author. These are made from the dry powdered gland; in preparing for use take a quantity of the extract of the gland equal to 6 per cent. of the water used, mix and let stand for a short time, filter and sterilize by bringing it to the boiling point. Some rhinologists recommend mixing with camphor water, others use a few drops of carbolic acid.

The most convenient preparation is the alkaloidal salt, adrenalin chloride (prepared by Parke, Davis & Co.). Suprarenal preparations are not anesthetic but are purely contractors of blood vessels.

Acting as such in the nose, they enable us to perform practically bloodless operations. This bloodless condition of the membrane may be maintained by repeated applications. This remedy has, of course, a decided influence upon secretion of the mucous glands, whose activity depends upon the blood supply, and whose secretion is checked by the ischemic action of the suprarenal. The effect of one application of suprarenal is lost in from fifteen minutes to two hours. A relaxation takes place after the effect has disappeared, producing more congestion than was originally present. It is valuable in the treatment of acute catarrhal conditions, and in some case of chronic rhinitis with marked discharge. It is possible, the author believes, with suprarenal preparations persistently applied to alter a hypertrophic tendency and to bring about the opposite condition of atrophy. In hay fever it continues to be of great use, though not to all patients nor in all cases. There are marked idiosyncrasies exhibited by some patients which render its use inadvisable or impracticable. However, in the great majority of cases it continues to be one of our most valued remedies in this disease. In chronic hypertrophic rhinitis, where the membrane is thickened, the use of suprarenal after cocaineization is justifiable when the discharge is a marked and disagreeable symptom, and especially after surgical treatment, which has relieved the obstruction but not the discharge.

The oily sprays are used as vehicles for certain remedies and have an amount of protective power. When atomized they penetrate every fold of the mucous membrane and possibly sometimes reach the ramifications of the bronchi. When an absolutely non-irritant, bland preparation is desired, liquid alboline or liquid vaselin should be used. Effective combinations may also be made by adding other remedies. The favorite drugs are menthol, eucalyptol, oil of cubebs, oil of pine needles, resorcin, chloroform, turpentine, oil of rose, sassafras, and all the aromatic essential oils. Menthol should be used in the strength of 2 to 5 grn. to the oz.; eucalyptol, 1 to 8; chloroform, 5 to 2 min.; resorcin, 10 to 15 grn.; and most of the essential oils should be used 1 or 2 grn. to the ounce.

In certain cases the remedies described in this paper fulfil important duties and produce desirable results. If a fair trial of them does not give good results, they should be abandoned for surgical procedures.

In the discussion that took place after the reading of the paper, Dr. Harris agreed

in the main with Dr. Douglass. He added that it has been his practice in later years to combine an alkali with almost any treatment of the nose; he gives sodium phosphate, but the alkaline or any other alkaline salt may be given; iodine in very small doses, with $\frac{1}{100}$ grn. of phosphorus, or bromine in sherry wine is very useful. Children do better on a combination of iodine with iron, such as the syrup of ferrous iodide. Codeine, cubebs, and ammonium chloride have an alterative action on the mucous membrane of the throat. Aconite in small doses until the full physiological effects are obtained, or veratrum viride is often beneficial in the acute affections of the larynx in children. A combination of atropine, morphine, and aconitine in small doses in acute rhinitis has in the author's hands proved much more useful than a combination of camphor, belladonna, and quinine.

Dr. Opdyke spoke of the injurious effect of tea and coffee on the mucous membranes. The cocaine spray he considered very harmful; not only on account of the risk of the cocaine habit, but also because the method does not do the work we want. When indicated, cocaine should be applied solely to the part affected and by the physician only. Frequent douching he considered injurious; in nasal and pharyngeal catarrh silver nitrate is one of our best remedies. Alteratives and constitutional treatment are important; the salicylates are often indicated. Heroin, iodoform, and ichthyol are excellent. Sometimes it becomes necessary to send our patients away for a little time; change of air, diminished humidity, and more equable temperature, together with freedom from care and business worry, will often complete a cure in an otherwise exasperatingly obstinate case.

Dr. A. Rose praised the inhalation of carbon dioxide—carbonic acid gas—in nasal catarrh. An apparatus for the preparation of this gas can be easily improvised: a wide-mouthed bottle holding about a pint, with a perforated cork, and a rubber tube with a proper nozzle, are all that is required. Six drams of sodium bicarbonate, 4 drams of large crystals of tartaric acid, and 4 oz. of water are introduced into the bottle, which is then corked. As soon as the evolution of gas commences, the nozzle is applied to the nostril and the gas is inhaled. Instead of tartaric acid, disks of sodium bisulphate may be used; but in this case the water should be warm. The doctor claimed that the inhalation of carbon dioxide produced a permanent improvement in the Schneiderian mucous membrane.

REMARKS ON THE DIAGNOSIS, TREATMENT, AND PREVENTION OF TYPHOID FEVER¹

By William Sidney Thayer, M.D.

IN considering the relations between typhoid fever and malaria we come to a point which cannot be too much emphasized and which has been far too little recognized. The confusion of typhoid and malaria which exists in this country to-day is appalling, and it is not limited to any special region. Let me give you a few facts concerning this question: In the year ending 1890 more deaths from malaria were reported in the city of Brooklyn than from typhoid fever, and yet we know to-day that of these fatal cases of so-called malaria the great majority were probably typhoid fever, pure and simple. During the Spanish war an enormous proportion of the cases of typhoid fever were classed by army surgeons as malaria. In the report of Reed, Vaughan, and Shakespeare we find the following figures: "The total number of probable cases of typhoid fever among the 92 regiments studied was 20,738. Of these, 10,428, or 50.27 per cent., were diagnosed as typhoid fever either by regimental or hospital surgeons. Most of the cases improperly diagnosed were sent to military hospitals or to civil hospitals with a diagnosis of malaria. In 80 out of 85 cases sent from the Fifth Maryland to civil hospitals in Baltimore, the diagnosis was changed from malaria to typhoid fever. Out of 98 cases sent from the Eighth New York to hospitals in New York City on September 9, all were recognized as typhoid fever by the physicians in charge of the hospitals, while the majority of these cases had been entered on the sick reports under other diagnoses." Ninety-two cases of supposed remittent fever from 20 regimental organizations of the Second Army Corps at Camp Alger were transferred to Fort Myer, Virginia. Here they were carefully studied, with the following result: In 31 cases the disease was found to be of an absolutely different nature, the diagnosis being changed to rheumatism, febricula, debility, heat prostration, pleurisy, pneumonia, acute bronchitis, acute diarrhea, and acute conjunctivitis. Of the remaining 61 cases of supposed remittent fever, the diagnosis was changed in one case to tertian intermittent fever, and in 60, or 98.3 per cent., to typhoid fever. Of 101 cases of supposed malarial fever transferred to the hospitals at Hartford and New Britain, Conn., by the First Connecticut Infantry on

¹ *St. Paul Med. Jour.*, April, 1902.

its departure from Camp Alger, Virginia, September 7, 1897, 98 received the diagnosis of typhoid fever and only three the diagnosis of malaria; this diagnosis was based on the fever curve and not on blood examinations.

This is a state of things which is, alas, only too frequent, and such mistakes are largely based on the failure to appreciate a fact which is as definitely proven as anything in the practice of medicine, namely, that quinine is a specific for malaria, and that no fever which resists quinine, properly administered, is malarial fever. If treatment be instituted at the beginning of an attack and the patient be put to bed, the temperature will always break in three or four days, usually before. The therapeutic test is absolute and definite. In the United States, continued fever without apparent cause, which is resistant to quinine, especially if there be no leucocytosis, is in the vast majority of instances typhoid fever. Wherever such a case occurs one is justified in making a probable diagnosis of typhoid.

What are the mild continued fevers which, in the words of the reporter, "present none of the symptoms of typhoid fever," and are resistant to quinine? What are the continued fevers which, not infrequently, begin with a chill and last several weeks without special local manifestations—the so-called "typho-malarial fevers?" In the great majority of instances they are definite, unmistakable typhoid fever. Wherever hospitals and laboratories and trained clinical observers have advanced, the diagnoses of "simple continued fever," of "typho-malarial fever," and of the "third fever" have disappeared. Where proper blood examinations and autopsies are made, the justification of this fact is ever forthcoming. *The common continued fever of the United States, north, south, east, and west, is typhoid fever*, and the sooner we recognize it and acknowledge it the better.

There exists among the public and among the medical profession, and justly, the feeling that the prevalence of typhoid fever in any district is a reproach to the community. It is well that such a feeling should exist, but it occasionally brings about rather distressing results. It is extraordinary to see how far one's local pride may influence one's good judgment. This has, perhaps, been better shown by the behavior of a large part of the public, including, unfortunately, a considerable number of medical men with regard to yellow fever, and even more recently in connection with bubonic plague. If the physician has any duty

plainly before him, it is to acknowledge openly the existence of any preventable infectious disease which occurs in his neighborhood. But in epidemics of typhoid fever there are, unfortunately, some of us whose wish is father to the erroneous diagnosis of "malaria." To-day, with our present knowledge, every physician should realize that it is far better to err on the other side—to suspect typhoid fever, and institute or strengthen proper precautions with regard to the case and the community.

A word with regard to methods of treatment. We have no specific against typhoid fever. We possess no antitoxin such as we have against the poison of diphtheria; we know as yet of no method by which we can definitely stop the growth of the organism. In a large proportion of cases of typhoid fever, in all at the beginning, we have no local lesion which we can influence by active treatment. We are confronted by a general septicemia, and the essential principles of the treatment of typhoid fever are the same as if we were dealing with an instance of ulcerative endocarditis, namely (1) complete rest; (2) a diet as nourishing as the condition of the patient will allow; (3) measures to relieve the hyperpyrexia and to keep the skin and muscles in as good condition as possible; (4) an ever-careful watchfulness for the various dangerous complications.

A word with regard to the diet. It should be generally recognized that the diet is a very important point in the treatment of typhoid fever; perhaps not in the sense that we must absolutely restrict our patient to milk and liquids, but in that we must adapt our diet to the condition of the patient. There is no question of the fact that liquid diet is best adapted to most cases of typhoid fever, but there are many instances with few abdominal symptoms, a reasonably good general condition, and a fairly good appetite throughout, in which considerable latitude of diet may be allowed, and in which variety is really important. I can do no better than to refer to the excellent article by Dr. Shattuck¹ upon the diet in typhoid fever. As Shattuck justly says, we must treat our patient, and not the disease. It is necessary in text-book articles to lay down certain general rules, but he who blindly practices medicine from text-book rules has a small conception of his duty to the community. If medicine could be practiced by rule, the function of the physician would be small.

The value of the cold-bath treatment of typhoid fever, which was well recognized

¹Jour. Amer. Med. Assoc., XXIX, No. 51.

by Nathan Smith, of New Haven, in 1824, is unquestionable. It should be remembered, however, that its value is not alone in reducing temperature. The general effect upon the circulation and the nervous system, and the judicious massage which should always accompany the sponge or the bath, probably play an important part in contributing to the good effect.

With regard to the care of the bowels in typhoid fever, the conclusion which has been generally reached by most experienced clinical observers is that it is undesirable to administer laxatives by the mouth or to interfere any more than is absolutely necessary with the function of the intestine during the course of the fever. Considering the nature of the lesions which are commonly present, it seems to me that this is the rational course. In Prof. Osler's clinic it is the general rule to give enemata every other day in case of constipation, but otherwise to strictly let the case alone.

With regard to the so-called intestinal antiseptics, the main reasons which seem to me to render attempts in this direction inadvisable at present are:

(1) That the demand for the so-called intestinal antiseptics is based upon a misconception. At the time when we begin treatment it is probable that the number of typhoid bacilli in the intestinal canal is considerable; the symptoms are due entirely to bacteria which are already within the organism and out of our reach.

(2) That to accomplish anything like effective intestinal antiseptics is utterly impossible.

(3) That there is no evidence of any value in support of the efficacy of intestinal antiseptics so-called, in the treatment of typhoid fever.

With regard especially to a certain "method" of treatment which has been extensively advertised, the same reasoning applies; and, in addition, there are, it seems to me, other excellent arguments against its employment. It is extremely important that the patient with typhoid fever should be disturbed as little as possible, but the constant dosing, such as is associated with this method of treatment, is the worst type of meddlesome therapeutics. In addition to this, diarrhea, which may be caused by the calomel, is unquestionably harmful in some cases. There is no evidence that the treatment is of value. This method has, so far as I know, only one recommendation: it is good for the nervous family.

The essential features of the treatment of typhoid fever are rest, diet, bathing, and massage, proper nursing, together with

watchful symptomatic and stimulating treatment, and careful, intelligent observation of the case in order to recognize at the earliest moment the more dangerous complications. This latter point is one of the most important in the treatment of typhoid fever. The complication which it is most important to recognize is, needless to say, perforation. But a few years ago perforation following a typhoid ulcer was regarded as necessarily fatal. In 15 cases of typhoid perforation operated upon by several surgeons connected with the Johns Hopkins Hospital in the last few years, there have been 6 recoveries, or 40 per cent. In Prof. Osler's clinic alone, 11 cases have been recognized and operated upon, with 5 recoveries, a percentage of 45.4 per cent. This percentage is unquestionably higher than is likely to be obtained in private practice owing to the advantage offered by a hospital for careful observation of the patient. The one important point in the treatment of typhoid perforation is that it be recognized as early as possible. But the onset of the perforation is frequently extremely difficult to determine, and a diagnosis is often to be reached only by the careful weighing of every symptom. Frequently recorded observations of the patient, of his pulse, of his respiration, his temperature, the condition of his leucocytes, are of the utmost importance; and in carrying out such observations the physician in a hospital has a great advantage over the colleague in private practice. This advantage is largely due to the multiplicity of assistants and the freedom from disturbances by injudicious friends. *A hospital in which clinical instruction is given offers distinct advantages over one in which students are not admitted to the wards.* This is a point which has become very strongly impressed upon me during the last several years, since which time several students have been assigned to each ward in the Johns Hopkins Hospital as clinical clerks. It is a point which should be emphasized. The public and many physicians are too often afraid of students. It is not uncommon to hear of hospital trustees refusing to allow clinical instruction in the wards out of a fancied regard for the welfare of their patients. But to any who have observed carefully hospitals in which clinical instruction is and is not given, the question is as clear as day. *That ward which has most student assistants, subject, of course, to proper regulation, offers the best treatment to its patients. I feel sure that several lives have been saved within the last year or two in our wards owing to the possibility of keeping proper records of the*

blood alone; these lives would have been lost five years ago, when such records would have been impossible. That patient receives the best treatment whose case is most studied.

For an interesting and valuable consideration of the early recognition of perforation in typhoid fever I would refer to Prof. Osler's article in the *Lancet* for February 9, 1901.

One word with regard to the dangers of operation. In the hospital ward where the patient can be moved with facility an exploration of the abdomen under cocaine may be made to-day almost without shock, and in many suspected cases of typhoid perforation exploration is the conservative course.

That typhoid fever should prevail among us to the extent in which it does is a reproach to our country, and its prevalence is doubtless due in part to the ignorance of the general public with regard to its manner of origin and the possibilities of its prevention.

What are the ordinary sources of infection?

Primarily the infection always comes from man, the original sources from which the disease spreads being the fecal and urinary discharges of an infected individual. Any substance taken into the gastro-intestinal canal may be the bearer of infection. The world, however, has come to look upon water as the main or only source of danger. It is true that infected water has been at the bottom of many of the largest typhoid epidemics, especially in the larger cities and towns, but in the enormous number of cases of typhoid fever which developed during the late war an infected water supply played probably a relatively small part. It is easy to see how almost any article of food may become infected, and many articles of food constitute excellent culture media for the typhoid bacillus. Thus the epidemics depending upon infected milk, due to the watering of milk or the washing of cans with infected water, are familiar to all. A number of typhoid organisms, which might perhaps be harmlessly ingested by a healthy individual, may, if introduced into a vessel of milk, develop into a culture which may spread the disease to many families.

But the transmission of the bacteria by water is by no means the only method of spreading the disease. The nurse or attendant not infrequently contracts typhoid fever from direct contact with soiled clothes or the body of the patient, and too great care in washing the hands before handling articles of food cannot be insisted upon, for the attendant may not only infect himself, but may readily, from his hands or clothes,

spread the infection to other articles of food or to other individuals. It is more than probable that dried fecal matter with bacilli yet living may be spread to a certain extent in dust, and if the infection by inhalation be impossible, which it is fair to say is not proven, yet the mere dissemination by dust may serve to deposit organisms capable of growing upon various articles of food which may constitute good culture media.

An extremely important method of transference of infected material to articles of food has been shown to be carried on through the agency of flies. It is probable that many of the cases in the military camps during the last war were due to the direct transmission of the bacilli from uncovered fecal matter to articles of food. L. O. Howard has shown that the domestic fly which haunts kitchens, will often lay its eggs in human feces; and in one military encampment he observed, walking upon the food, flies whose legs were stained white from the lime which had been put into the common pit used by the company.

An especially dangerous source of infection is revealed by the recently demonstrated fact that virulent typhoid bacilli may remain present in the urine for long periods of time after recovery from the disease.

These facts suggest of themselves certain elementary steps which should be taken everywhere.

In the first place it is a crying shame that all our large cities should not adopt measures properly protecting the basin from which their water is drawn, or install proper filtration plants. It is humiliating to hear our countrymen so frequently advise their friends and relatives to avoid drinking water in European cities, while at home they use with freedom water which is infinitely more dangerous. Where the water supply is imperfect, we should always boil all water used for domestic purposes, and we should remember that there is danger, not only in the water we drink and in that with which we wash our dishes, but in that with which we wash our bodies and clean our teeth.

We should also recognize and remember the fact that typhoid bacilli may, and unquestionably do, live for considerable periods in ice. He is inconsistent who boils his water and uses ice, concerning the origin of which he is uncertain. Park has recently shown that typhoid bacilli may remain virulent for as long as eighteen weeks in ice.

We should remember that any uncooked article of food which has been washed in, or exposed to contaminated water, may be dangerous.

THE ANTISEPTIC AND ELIMINATIVE TREATMENT OF TYPHOID FEVER¹

By T. Virgil Hubbard, M.D.

THE modern tendency to investigate so closely the habits and pedigree of the different bacteria, it seems to me, is largely supplanting the investigation of the real condition of the patient, and it is a tendency against which the intelligence of the future will cry out in no uncertain terms. It is generally admitted that we are constantly surrounded by a variety of these disease-producers; even the air we breathe, the water we drink, and the earth we tread are but the natural habitats of these micro-organisms. Every human being probably carries within his own person some one of the different varieties of these germs in sufficient number to produce an infection, yet how many human beings go through a comparatively useful career without ever succumbing to their baneful influence. Now what does this teach? It means there are other factors in the production of this disease than the germ itself, and this factor, in my opinion, to a great extent is auto-intoxication—a practical fact which surgeons have recognized and heeded by a thorough preparation of their patient before an operation. They thoroughly purge the patient and see that his skin, kidneys, and liver are acting freely, thus eliminating all of the effete material and chemical products of tissue changes constantly going on in the human organism.

Park, in his *Surgery*, goes so far as to say that "in addition to purgatives, drugs like salol, charcoal, and salicylates should be administered" as intestinal antiseptics. Many uremic accidents supervening after surgical operations may be atoned and the condition made to pass away by internal administration of naphthalene and charcoal.

Putrefaction of intestinal contents, to my mind, affords a most prolific source of auto-intoxication. If an attempt at intestinal antiseptics is so desirable before surgical operations, how much more so does it become in an acute infectious disease with its principal seat in the bowels. Here all the conditions favor putrefaction—the presence of bacteria, peptone, heat, and moisture, with diminished biliary and intestinal secretions, as a result of fever. With the expectant or "do-nothing" plan of treatment and its accompanying constipation and tympanites, the result of putrefaction, the wonder to me is that more patients do not succumb to perforation and hemorrhage—and it cer-

tainly speaks volumes for the resisting power of nature.

In a bowel whose walls are already weakened by ulceration, common sense dictates that by allowing it to become filled with putrefying material, distended with gas as a result, we have the most favorable condition for perforation or rupture of the weakened wall of an artery. Compared to danger like this, the insignificant disturbance produced by mild purgation is but as "the roar of a meadow brook to the wild tumult of a mountain stream."

When we stop to think that there is enough poison produced in the human system in a few hours to destroy life if retained, it requires no prophetic vision to predict that the day is near at hand when the general practitioner will abide by the common-sense rule of the surgeon and use the alimentary canal for what nature largely intended it—a sewer to drain from the system the toxins, effete material, and other obnoxious products.

Nature intended the bowels to act in health, and if constipation is bad in health, it is worse in disease. It is superfluous to repeat here what I have stated in previous papers, and that is, that I know that you cannot render the alimentary canal aseptic by the administration of drugs, but the man who fails to give some one of the intestinal antiseptics in typhoid fever is derelict in his duty; is not using the resources at his command for the benefit of his patient.

Dr. Osler, who has been the most outspoken opponent against this treatment, and maintained that intestinal antiseptics were useless and should not be administered in typhoid, at the same time highly extols urotropin to disinfect the urine. If you can disinfect an excretion like the urine by administering antiseptics internally, why won't the same drug destroy the micro-organism in the bowel, the blood or any tissue of the body? Why does the drug possess more antiseptic power when in the urine than it would in the blood?

Is it not more rational to say that a drug given internally is more likely to destroy a bacillus in the bowel than to say it will destroy it after being excreted in the urine? Dr. Osler contradicts himself in his argument against intestinal antiseptics, and consequently his logic is false.

There are a number of drugs which can be given in harmless doses that will prevent fermentation and putrefaction of the bowel contents, and consequently the formation of gas. Park says: "Man forms in his liver enough poison to kill him in eight hours, and the urine eliminates but one-half." Bile

¹ Read before the Medical Association of Georgia.

is nine times as poisonous per volume as urine. Does this not show to any unprejudiced mind the importance of keeping the secretions and excretions in an active condition?

We all know that in fever, destructive tissue-metamorphosis is taking place more rapidly than in health. More poisons are being manufactured and at the same time, as a rule, functional activity of the emunctories—the liver, kidneys, and skin—is lessened; consequently we have the abnormal condition of increased production of poison and diminished elimination, and hence the therapeutic indication becomes very plain. If elimination from the system of these poisons is so necessary in health, how much more necessary does it become in a disease produced by a germ which is constantly manufacturing toxins of unknown chemical composition and lethal power, and sending them to every part of the human system through the medium of the circulation and the lymphatic current.

The bacteriologist tells us it is not the germ itself which gives rise to the symptoms, but it is the poison produced by the germs (toxins), and this exegesis of the subject is largely borne out by the fact that few germs are found in the blood; consequently some other agent must be the active factor in the production of symptoms.

Horton-Smith, in the Gouldstonian lectures, showed that "in twelve cases of fatal typhoid fever coming to post-mortem examination, the blood in five was sterile; in two it contained typhoid bacilli; in one streptococci and staphylococci; in two the bacillus coli, and in two the bacillus coli with proteus." Out of thirty cases, including his own, the typhoid bacillus was found only in nine. These observations certainly prove two conditions, which are, first, that the patient may die with typhoid fever and no germs can be found in the blood, and the other, that of the different varieties of germs found in the blood after death in typhoid-fever patients, the bacillus of Eberth is found in less than one-third of the cases and other germs of the different varieties are found in two-thirds of the cases. This element of mixed infection is, in my opinion, responsible for the great variation in symptoms in this disease and accounts for that significant fact which we often hear from physicians, that they scarcely meet with two cases presenting just exactly the same clinical aspect. It is also a forecast of the difficulty we will meet with in attempting to get a successful antitoxin for typhoid.

It remains for the physiologic chemist to

supply the missing link and bridge the chasm which now exists between the established bacteriologic science and a rational and scientific therapy. Every new discovery is attended with its accompanying evil, and the glaring one connected with the valuable enunciation of Koch and Lister is the fact that it has resulted in the production of so many therapeutic nihilists. Some of the best men in the profession, in their eagerness to join the procession in the study of these new and fascinating causative factors of disease, have overlooked the importance of the thorough knowledge of the physiologic and pathologic chemistry of the human system. The time is now ripe for the pendulum to swing in the opposite direction, and let us learn not only of the products of the germ but the complex chemical poisons which are constantly being generated in nature's own laboratory, the human system, a thorough knowledge of which the general practitioner is now seeking, and which will result in the solution of some of the intricate problems of modern medical science. In this connection I desire to present a few clinical facts which show the ridiculous absurdity of some modern theories regarding the administration of drugs in infectious diseases. The modern teaching is all to the effect that infectious diseases run a definite and specific course and cannot be influenced by medication. To this oft-repeated error I desire to enter a protest based on clinical experience.

The man who says you cannot favorably influence the lethal tendency of the causative factors in typhoid fever by medication has simply not had experience with the proper drug. He belongs to that class of medical men who consider it unscientific to storm the domain of a bacillus with a dose of medicine and has practically discarded his old friend, the "*Materia Medica*." He contents himself by sitting down by the placid waters of expectancy and watching the life of his patient slowly but surely ebb away as a result, not only of the ravages of the supposed germ which is causing the disease, but of the chemical toxins as a result of tissue metabolism as well.

With this explanation of what I consider to be the real condition of the patient in typhoid fever, we will see how we can best meet the plain indication for elimination. Some of those who have opposed this treatment maintain that the germ is found in the walls of the bowels and lymphatic glands and other tissues of the body; consequently it cannot be reached by any drug. If they will but review their *materia medica*, they will find that mercury is absorbed into the

blood and carried to the remotest part of the system, and is found in the secretions and excretions, even the saliva, the semen, and the milk from the mammary gland. So it is immaterial in what tissue the germ may be found, whether the roots of the hair, the tips of the fingers, the spleen or lymphatic glands, it cannot escape the influence of mercury when given internally.

Is mercury not a specific for that disease which is typical of the class of constitutional disease, syphilis? In controlling this disease does not mercury go to every part of the system? I maintain it is more rational to attempt to reach a germ and its products in whatever tissue the fancy of my opponents may dictate by the administration of mercury internally, than it is to reach the same by the application of cold water to the skin; but it is as important to know how to give mercury in typhoid as it is in syphilis. Bad results will follow improper administration in either disease, but that in no sense lessens the therapeutic value of the drug. I have used and advocated mercury because it has given me the best results. I know of no other constitutional remedy that will thoroughly stimulate the activity of the emunctories.

We should not be wedded to any one drug or combination of remedies, but should constantly keep in view the object to be accomplished—that is, elimination. Any harmless procedure that will aid in securing elimination is to be commended. I now use, in all my cases, normal salt solution per rectum, and I find it the most efficient means of securing prompt action of the skin and kidneys, and I cannot too strongly emphasize the importance of these two emunctories, and especially the kidneys, in typhoid. In profound depression, after hemorrhages, and in some cases of low muttering delirium, I immediately resort to the subcutaneous administration of salt solution. I direct that the patient be sponged with water at a temperature most agreeable to him, with brisk rubbing of the skin to stimulate the nervous system. In no case have I had to resort to antipyretics of any sort after two or three days of treatment, and in very few cases is it necessary with this treatment to use alcohol in any form.

Some of the patients go through the disease without the necessity of strychnine. Time forbids me going into details in regard to diet, but as a rule they digest and assimilate more with this treatment than any other plan.

I will briefly repeat the treatment which I recommended in a paper read before this association one year ago, and I have very

few additions to make to the same. When called to a case of typhoid fever, I usually commence by giving the patient a capsule of calomel, $\frac{1}{2}$ grn.; guaiacol carbonate, 2 grn.; podophyllin $\frac{1}{40}$ grn., every two hours for twenty-four to forty-eight hours, depending upon the condition of the bowels. I continue this until I have secured four or five intestinal evacuations for two successive days, and then I leave off the calomel and add $\frac{1}{2}$ grn. of menthol to the guaiacol and podophyllin. If, after discontinuing the calomel, there is a tendency (as there frequently is) of the bowels to become inactive, I administer a small dose of salts or Hunyadi water in the morning. I always endeavor to secure at least two or more evacuations daily, depending upon the temperature and condition of the bowels. If after three or four days of treatment, the temperature remains high or rises after having remained stationary, I again resort to the calomel as before for twenty-four hours, or less, as necessary, and it invariably reduces the temperature and results in a general improvement in the patient's condition. I continue the administration of guaiacol and menthol throughout the course of the disease.

Guaiacol carbonate, aside from its antiseptic effect in preventing intestinal putrefaction, seems to have some favorable influence over the disease. Its well-known beneficial effect in tuberculosis strengthens the declaration that it would be beneficial in typhoid.

This is the treatment as I use it in the majority of cases, but I wish it distinctly understood that it is not routine, and that the size and dose and frequency of administration must be varied to suit the case, and the physician at the bedside must determine this fact.

Now to the point that typhoid can be influenced by medication. I have, up to the present time, treated thirty-five cases without a death, and in every single case the temperature reached normal by the morning of the fourteenth day without the use of antipyretics. Some of them as early as the tenth, eleventh and twelfth days.

In a few cases it never went above normal again; in the majority of them it would rise a degree, or perhaps a degree and a half, in the afternoon, but the convincing fact is, that the disease was always under control by the fourteenth day, and its course and severity mitigated. These are not theoretical deductions reached by following in the steps of some erroneous textbook writer, nor have they fallen from the lips of some college professor whose ver-

bosity far exceeds his logic, but it is indubitable clinical evidence gleaned from the bedside of the patient. The fact that in these thirty-five cases there developed no complication during the course of the treatment is sufficient evidence of its efficacy to convince any unprejudiced mind. Hemorrhage only occurred twice, and then very light. In cases where I have been called in consultation, and complications were already present, they speedily passed away under the influence of this treatment.

[NOTE—The above two papers, representing two diametrically opposite methods of treatment of typhoid fever, are designedly printed in juxtaposition. We abstain in this instance from any comments. They are both able papers: Let the reader of the ARCHIVES read them carefully, ponder the arguments of each side, and then select the method which appeals best to his judgment and experience. Any criticisms or comments from our readers anent the above subject, we will be glad to publish in the columns of the ARCHIVES.—Editor.]

DIPHTHERIA TREATED WITH ANTITOXIN AND PILOCARPINE¹

By E. W. Saunders, M.D.

It is now several years since I published my observations on the treatment of diphtheria with antitoxin and pilocarpine. These years have only served to strengthen me in the position then taken. My conviction has not been shaken, and the use of pilocarpine as a valuable adjuvant to antitoxin in the treatment of this terrible malady deserves to be generally recognized.

In another place, I have discussed extensively the mode of action and the special indications for this drug. Suffice it, then, to repeat that the activity, which gives it a special place in the treatment of diphtheria, is, that it stimulates the excretion of the toxin, and excites the activity of the leucocytes.

The specific action of the antitoxin is manifested in a varying interval, which ranges from twelve to thirty-six hours. During this time the organism is at the mercy of the diphtheria toxin, and degeneration of the nerves and cardiac muscle may be initiated. It follows that paralysis may result in spite of treatment with antitoxin, which can only neutralize the free toxin in the blood or tissues, but is powerless to separate the poison from its attachment to the nervous system. Therefore, a

remedy is necessary to excrete the poison during this interval and prevent its union with the nerve structures. Such a remedy we possess in pilocarpine.

As soon as the toxin is neutralized by the antitoxin injected, the leucocytes finish the work by destroying the bacteria in the throat. It is necessary, then, to have active leucocytes present, for not only must the diphtheria bacilli be overcome, but also other bacteria, which are almost invariably associated with the specific micro-organism. An active leucocytosis is necessary for their destruction, whether we adopt the theory of phagocytosis or the theory of bacteriolysis. Pilocarpine increases the formation of the white blood-corpuscles, and thus its effect, even in convalescence, is decidedly favorable.

In examining the statistics published by various writers, it is obvious that the death-rate of diphtheria is still unnecessarily high. Richardière, in 1,115 cases, found a mortality of 11.5 per cent. In non-operative cases only 5.5 per cent. died. Baginsky makes the death-rate about 9 per cent. American statistics, gathered from various sources, give a death-rate varying from 5 to 15 per cent. I feel that these figures can be markedly reduced. Our position in regard to diphtheria should be the same as in the prophylaxis of puerperal infection; that is, in case of death, the attending physician must be blamed until he can prove himself innocent. I am aware that many conditions contribute to the mortality that lie outside of the control of the physician; e.g., the physician not being consulted until four or five days have elapsed after the onset of the disease. But, whenever the physician has control of the disease from the beginning, there should very exceptionally be a death.

Again, the accidents following the diphtheritic infection are still very numerous. Some authors assert that the various forms of post-diphtheritic paralyses are more common now than before the treatment with antitoxin, and the reason given is that more of the severe cases survive. Here, too, the after-effects, as published, seem rather too frequent; and I am convinced that the pilocarpine treatment will also reduce these sequelæ.

In the past seven years I have treated in the neighborhood of 300 cases of this disease in private practice, and in the Episcopal Orphans' Home, and I have not a single death on record. Some of these cases were treated by one of my assistants, more or less under my own personal supervision. Of course, this does not include some serious cases, in which I have been called in

¹*Courier of Med.*, April, 1902.

consultation, but only comprises those which have been treated by myself or assistant from the beginning. There have been no special sequelæ in any of these cases. There has been no case of severe nephritis, and only two or three cases of mild paralysis of the palatal muscles. One case showed slight strabismus for a few days.

Before the days of antitoxin, my mortality was no better than that of my neighbors, as far as I know. But, since the introduction of this remedy, I have not had to write the word diphtheria on a death certificate. The uniform results that have followed this method have made me enthusiastic concerning its efficacy, for which I hope I will be pardoned. The following rules serve as my guide in the management of diphtheria, and have resulted in such a gratifying result:

1. In all cases exhibiting an exudate or a pseudo-membrane in the faucial mucous membrane, administer pilocarpine at once in doses sufficiently large to incite its physiological action (salivation, diaphoresis, etc.). (This drug is very valuable in follicular tonsillitis, or even in ulcero-membranous angina, and in cases of doubtful diagnosis can do no harm.)

2. When there is the least suspicion that the case is diphtheria, pains should at once be taken to corroborate or exclude this provisional diagnosis; the membrane should be examined microscopically, stained by the Loeffler or Neisser stain, repeated visits should be made during the day, and the progress of the exudate watched; the temperature, the throat, the pulse, and the cervical glands should be carefully considered, and if the evidence is rather in favor of diphtheria, antitoxin should be injected at once. A given case should never be allowed to go through the night without the injection, if there is any evidence of diphtheria. It is the promptness of using the specific remedy which insures the speedy favorable result.

3. The dose of antitoxin should be large enough to neutralize all the toxin present in the blood, and a sufficient excess which will neutralize all the toxin which may enter the circulation in the following week. Antitoxin must be present in the blood until the bacilli are thoroughly eradicated from the throat. A sufficient dose must be given at once, and need not be repeated. For a mild case 1500 units, a case of moderate severity should receive 2000 units, and a severe infection from 2000 to 3000 units.

4. Special attention should always be given to the antitoxin. I have seen lives lost because an inert preparation of anti-

toxin was used. It should be made by a reliable firm, and should not be too old. I regard six weeks as the maximum limit of the time after withdrawal from the animal that the serum should be regarded active when it is kept at the ordinary temperature. It is well known that serum deteriorates rapidly on standing at the ordinary temperature; this is particularly true of the sera of high potency. If only old serum can be obtained, the least concentrated should be chosen, and allowance must be made for the deterioration or weakening in strength, so that it is advisable to inject double the quantity that is ordinarily required. Even when kept constantly on ice, a serum that is more than two months old should be regarded only about one-half the strength that is marked on the vial.

5. Even when the temperature drops to normal, and the membrane begins to cast off, the pilocarpine should be continued for one or two days in diminished doses. The leucocytes are thus stimulated, and convalescence hastened.

6. If the case comes under treatment after the fifth day, pilocarpine should be used with caution, on account of the danger of heart failure.

Other medication is rarely necessary, except possibly an initial purgative of calomel. Tonics are indicated during convalescence. I believe that applications to the throat can do no good, and many of them actually do harm. It is my rule, therefore, not to use local antiseptics, relying entirely on the salivation induced by the pilocarpine, which is not antiseptic, but acts as a detergent agent.

In conclusion, let me reiterate what I have stated elsewhere, that the fear which many in the profession entertain of pilocarpine is groundless. I have used it in thousands of cases in children, and have yet to see one instance where I thought life was endangered by it.

A PRESCRIPTION FOR PRURITUS ANI, CARBUNCLES, ENDOMETRITIS, ETC.

Dr. Geo. H. Candler¹ says that the following combination is most excellent for pruritus ani, carbuncles, swollen glands, eroded and ulcerated cervix in endometritis, purulent condition of the appendages, etc.:

| | |
|-----------------------|--------|
| Ichthyol | 1 dr. |
| Tinct. Iodine | 3 dr. |
| Glyc. Hydrastis | 5 oz. |
| Boroglyceride | 6½ oz. |

In affections of the female genital tract this mixture is applied on tampons.

¹ *Med. Summary*, Feb., 1902.

Progress in Materia Medica and Therapeutics

TREATMENT OF SEVERE VOMITING OF PREGNANCY

Dr. R. B. Hopkins¹ reports the case of a woman, aged forty years, multipara, who always, when pregnant, suffered severely with her stomach. During the last pregnancy, which was the fourth, the sick stomach proved almost intractable. This grew gradually worse as pregnancy advanced, and during the sixth and seventh months her life was in danger. Remedy after remedy failed. Premature labor might have been brought on, yet owing to her extremely weak condition was not thought advisable. Scarcely anything could be retained, water would be vomited immediately after reaching the stomach. She was almost bloodless, heart's action very feeble. The author found her one morning in a very prostrated condition, hands and feet cold, countenance pinched, scarcely any pulse at wrist, thirst extreme, yet she could not retain anything swallowed. The woman was starving for fluids; the system was drained, and she had lost a great deal of flesh. The following remedies were then given: hypodermic of morphine sulphate, $\frac{1}{4}$ grn.; atropine sulphate, $\frac{1}{150}$ grn., with $\frac{1}{60}$ grn. of strychnine sulphate. After this had brought up the pulse (and reaction had set in assisted by artificial heat) he gave her a rectal injection of 1 pint of warm normal salt solution. This she retained. In the evening he gave her another hypodermic and also repeated the normal salt solution. The next morning he repeated the remedies, increasing the salt solution to 1 quart. The hypodermic injection arrested the peristaltic action of bowels, which enabled her better to retain the rectal injection. These remedies were continued for four days, morning and night, and the author says he never saw such a transformation take place in a patient in such a prostrated condition. The pulse gradually came up, full and strong, the thirst subsided, the vomiting gradually lessened, and in a few days she was enabled to retain liquid food and gained in weight. She was delivered at full term.

THE TREATMENT OF RHEUMATIC HEART-DISEASE

It is surprising, remarks Dr. R. Bensen,² that so potent an agent as sulphuretted hydrogen has so long been neglected in the treatment of cardiac affections following acute rheumatism. The action of sulphu-

retted hydrogen on the heart, its power of reducing the pulse-rate when inhaled, has been known for years and established experimentally. But the importance of this agent as a curative factor has not been recognized. The inhalation of the gas reduces the normal pulse by 4 to 10 beats per minute, sometimes even by as many as 20 beats, inhalation lasting one to two hours.

After the rheumatic attack is over an increased pulse-rate or a tendency to it remains behind, and if we are able to keep the pulse down to normal, we give the inhibitory nerves a chance to recuperate. The enforced rest of the organ, which is at the same time the result of the lower pulse-rate, also favors the absorption of the remaining inflammatory products. If other rheumatic manifestations, besides cardiac disease, are present, the author orders two to three sulphur baths weekly in addition to the inhalations of sulphuretted hydrogen.

He is convinced that the method of inhaling the gas as it is given off at sulphur springs will be accorded a prominent place in the treatment of rheumatic heart affections in the future.

THE TREATMENT OF LOBULAR PNEUMONIA IN INFANTS

Death in lobular pneumonia, whether primary or secondary, is caused chiefly by exhaustion of the heart; this results both from obstruction to the pulmonary circulation and from septic poisoning. The treatment, says Dr. H. B. Sheffield,¹ must be active, energetic, and instituted early. Under such treatment a great majority of infants will recover, and he bases this statement on the fact that he treated nearly 200 cases of broncho-pneumonia in infants with but one death. The expectant plan of treatment, so highly lauded by some physicians in the management of pneumonia in the adult, is inapplicable in infants, because catarrhal pneumonia is not a self-limited disease, and delay in treating it is very apt to be attended by a continuous and rapid extension of the inflammation; and hence the great mortality.

The author's method is as follows. When called to a case of broncho-pneumonia in an infant, he immediately prescribes a moderate dose of spt. ætheris nitrosi and liq. ammonii acetatis, to be repeated every two to four hours, and directs the application of a poultice consisting of the following ingre-

¹ *Wis. Med. Rec.*, v., No. 1.

² *Therap. Monatsh.*, xvi, No. 3.

¹ *Post-Graduate*, April, 1902.

dients: 5 parts each of flaxseed-meal and camphorated oil; 1 to 2 parts of mustard, and a sufficient quantity of *boiling* water to make a thick paste by thorough stirring. This mass is spread on thin gauze or paper and applied snugly to the chest and back; the child is then wrapped in an oiled-silk jacket, lined with absorbent cotton, and in a blanket, which, with the hyperpyrexia of the body, maintains the heat of the poultices, which require renewal but three or four times in twenty-four hours. This poultice has special advantages over any other in use. As just mentioned, it requires but occasional changing, thus saving time and labor and avoiding unnecessary exposure of and annoyance to the patient. The mustard and camphor act as mild counter-irritants, and after some time bring the blood to the surface, thus relieving the pulmonary engorgement. Furthermore, the skin over the chest and back does not become "soggy and sodden," or "waterlogged" from the use of this poultice, as is apt to occur from prolonged application of ordinary flaxseed poultices.

The excellent effects obtained from the mode of treatment just related are usually apparent within a few hours; in fact they are at times marvelous. The suffering child who but a short time before had been on the verge of collapse, moaning, tossing, and twitching from pain and distress, gasping and panting for a free breath of air, now lies peacefully and enjoys calm repose or healthful sleep. Free perspiration having been established by means of the poultices and enhanced by the diaphoretics, the system having thus been relieved of a considerable quantity of *toxins*, the attack is practically checked. Nevertheless, expectorants, stimulants, nerve-sedatives and alteratives are resorted to if indications arise. The poultices are renewed less frequently. Many cases will be found to recover very rapidly after the induction of free perspiration, while others may linger around for weeks with occasional exacerbations of the disease, but generally come out well at the end. The author does not share the prejudice against expectorants. He prescribes them often and at times quite freely, if necessary. When a little baby is tormented by an incessant, dry, hacking cough, and a train of nervous phenomena which are associated with it, which tax the skill and patience of the attendant, small and frequently repeated doses of wine of ipecac, syrup of senega or squill, will often give considerable relief, allay the nervous irritability and permit the patient to refresh upon a brief period of rest or sleep which is invaluable in this disease.

Moreover, by enhancing expectoration the lungs rid themselves of a considerable quantity of effete material which more or less obstructs respiration, and produces auto-infection by being absorbed into the system. The tent made of bed sheets hung around the bed and moistened with creosote, oil of eucalyptus, and the like is highly to be recommended for the purpose of promoting expectoration, especially as these remedies when inhaled act also as antiseptics on the pulmonary tissues.

Stimulation is of very vital importance in every case of pneumonia in children, and ought to be administered from the earliest inception of the attack. Strychnine sulphate in gradually increased doses is preferable to any other stimulant, as it acts both on the cardiac ganglia and cardiac and respiratory centers, but occasionally digitalis and nitroglycerin are resorted to. Whiskey is useful only either in the very beginning or end of the disease, or may be given with milk or eggs more as a food. As to the question of feeding, the latter two food-stuffs and beef juice form about the most suitable diet; children refuse, as a rule, any kind of food, and it is often most remarkable how they withstand a very tedious and trying course of the gravest affection with hardly any nourishment at all. Like fish, they seem to thrive on water, and this beverage should be given to them *ad libitum*. About the sixth day of the disease the author begins the administration of sodium iodide in small doses, and if there are any signs of pleurisy with effusion he directs the application to the affected parts of the following ointment: 1 part each of oil gaultheria, guaiacol, and ichthyol, and 4 parts of iodine ointment. This ointment relieves pain and promotes the absorption of the fluid. Indeed, it is to this ointment more than to any other remedy employed that the author attributes his success in preventing pyothorax. In case of very pronounced nervous irritability, restlessness, or wakefulness, he resorts to sodium bromide with small doses of antipyrine.

MANAGEMENT OF ACUTE ALCOHOLISM

The editor of a contemporary¹ outlines the management of this troublesome condition. He says that very few conditions confronting the physician are less satisfactory to care for. The physician is usually called after the patient has been upon a spree of several days' duration, and when he has lost all desire for food and has gone for several days without it. Sleeplessness and intense nervousness, with a fear of im-

¹ *Chicago Clinic*, 1902, p. 94.

pending danger, are characteristic, while dread of delirium tremens occupies the overwrought mind. In such cases sleep is demanded by the patient at any cost and is most desirable; at the same time free elimination by bowels, kidneys, and skin are desirable. A brisk laxative in the form of Hunyadi, seidlitz powder or magnesium citrate is to be given. A Turkish bath is excellent, if not too depressing to the patient; but as a rule, at this time such service is not available, as the patient is not in a condition to avail himself of public baths.

Of the sedatives, the bromides, preferably that of sodium, have been generally used. The writer does not favor the indiscriminate use of bromides, chiefly on account of the fact that its effect upon the stomach makes the necessary reception of food more difficult. A standby has been a mixture of chloral hydrate, bromides, and a little tincture of capsicum, the latter relieving the intense longing for whiskey, as the use of that stimulant is being discontinued.

Of all hypnotics, however, none has proved so gratifying in the writer's hands as paraldehyde given in olive oil. The sleep produced is sound and refreshing and the depressant after-effects practically nil.

It is not well to push food until the bowels have acted freely. A light soup with crackers is taken readily, and the diet should be begun on this very light basis.

IODIPIN AND ITS USES

Dr. Blanck¹ writes on iodipin, basing his remarks on experiments personally conducted and on the reports of others. Taken internally, the drug passes the stomach unaltered and is partly split up in the intestines. The greater part is, however, absorbed and transported by the blood to the tissues, where it is deposited. Thus depots of iodine-fat are established in different parts of the body, whence the iodine is slowly liberated. A gradual and prolonged action of the drug is in this manner insured. The same circumstance accounts for the absence or mildness of untoward effects, which is one of the advantageous features of the remedy.

Iodipin is given by the mouth in doses of 1 teaspoonful to 1 tablespoonful and more, of the 10-per-cent. solution, thrice daily.

Over and above its therapeutic value, iodipin has been employed for diagnostic purposes, to test the motor power of the stomach. Normally, after a dose of the drug has been swallowed, iodine can be detected in the saliva ten to sixty-five minutes

later. If the iodine reaction does not appear in the saliva in the course of this period, a motor insufficiency of the stomach is the probable cause of the delay.

The drug can be administered otherwise than by the mouth—by rectum, by inunction, and subcutaneously.

For hypodermatic purposes the 25-per-cent. solution is to be preferred, and from 1 to 2 drams or more may be injected at a sitting.

Numerous affections have been subjected to iodipin medication, and usually with marked success. Tertiary syphilis yields to it as to no other remedy. In asthma, emphysema, scrofulosis, arteriosclerosis, diabetes insipidus, lead palsies, neuralgias, etc., excellent results have been obtained. The author concludes by stating that the drug is indicated whenever a continuous, prolonged action of iodine on the system is desired.

Dr. Kreibich¹ reports a case of actinomycosis in a woman of twenty-one. The disease affected the patient's cheek and was cured by local injections of iodipin. After puncturing the characteristic abscesses, an injection of 100 min. of the 25-per-cent. iodipin was given on the first day. A reactive inflammation set in and took two days to subside. On the fourth day another injection of 1 dram of iodipin was given. Later on injections were made at intervals of four to five days, altogether 1 oz. of the remedy being administered. Complete cure was obtained in four weeks. The same treatment had in two previous similar cases effected an equally gratifying cure.

Perhaps iodipin may also prove successful in the treatment of actinomycosis of the internal organs. Where the site of the affection is beyond our reach, large quantities ought to be given subcutaneously (3 to 5 oz.). In all such cases 25-per-cent. iodipin should be employed.

Dr. H. von Hymmen² has experimented with the remedy in all ocular affections indicating the administration of iodides, including some cases of ophthalmic tumors. Incidentally he has been able to note the beneficial effect of the remedy on other diseases, such as asthma, chronic inflammatory affections of the female pelvic organs, etc.

Several hundreds of patients received treatment in the course of about two years. Many of them owe their improvement to iodipin, the other iodides having been found ineffectual. For weeks and even for months iodipin was tolerated easily, with one exception, an elderly patient of sixty-six years.

¹ *Wiener klin. Woch.*, 1902, No. 4.

² *Ophthalmol. Klinik*, 1901, No. 24.

¹ *Die med. Woche*, Dec., 1901.

Among the disorders found amenable to the new remedy the author mentions scrofulous inflammations of the eye, which yielded to the internal exhibition of iodipin in a few weeks.

Several cases of parenchymatous keratitis due to constitutional syphilis were influenced favorably by the drug. The same may be said of chronic inflammatory conditions of the eyeball without diffuse opacities of the vitreous body. These latter showed themselves very obstinate to treatment, while solitary opacities due to progressive myopia and other causes yielded readily. An old case of abducens-paresis also improved under iodipin medication.

Generally speaking, the author recommends the remedy chiefly in chronic affections, requiring a prolonged action of iodine. In acute cases calling for a rapid action of iodine, iodipin may be given in combination with the alkaline iodides.

TREATMENT OF VACCINE SORES

Dr. A. Ernest Gallant¹ recommends the following treatment for vaccine sores: After the vesicle has thoroughly developed, with heat, soreness, or pain, and an extending area of inflammation, the further action, locally at least, can be controlled by removing the scab and smearing over the whole reddened surface the following ointment—ichthyol and wool-fat, equal parts. Over the ulcer place a thick pad of sterile gauze and cover the ointment with *rubber tissue*. Secure in place by a muslin bandage. In twenty-four hours the redness will have disappeared and the soreness, swelling, and stiffness diminished, and under the same dressing the ulcer will rapidly heal.

CONVULSIONS IN CHILDHOOD

The first thing to do in a case of convulsions, says Dr. Bresset,² is to remove the child's clothing, put him to bed with his head elevated, and insure quiet surroundings. The temperature of the room should be rather cool. If the seizures recur, a warm bath is given, the head being covered with cold compresses. While preparing the water, 5 to 6 drops of chloroform may be inhaled from a handkerchief. After the bath, the following antispasmodic enema should be given:

Asafetida.....16 grn.
Yolk of Egg.....No. 1
Milk.....3½ oz.

Bleeding is not permissible, except in uremic eclampsia. Neither should counter-

irritants, as mustard, blisters, etc., be allowed, as they may precipitate a new attack.

Most commonly the cause of convulsions is some digestive disorder. Emetics are not advisable, a cleansing enema being more beneficial. Later, calomel should be given (2 to 4 grn.). The diet must be fluid for twenty-four hours and the former régime gradually resumed.

The convulsion of eruptive fevers is best treated with cool baths.

In case of tapeworm, the following is prescribed, to be taken in the morning:

Oleoresin Male Fern.....45 min.
Syrup and Peppermint Water
.....to make 1 oz.

An hour afterward, a tablespoonful of castor oil should follow [many prominent physicians object to the use of castor oil after male fern—Ed.].

For seat-worms glycerinated enemata are useful, or a suppository like the following:

Calomel.....3 grn.
Cocoa Butter..to make 1 suppository

Insert at bedtime. During the day, blue ointment, the size of a pea, may be introduced into the anus.

The prophylaxis of eclampsia infantum consists in the avoidance of mental or physical excitement and fatigue, in a hygienic life in general, and in proper attention to the dietetic regimen.

EPITHELIOMA OF THE LIP

Dr. Wm. A. Armstrong,¹ of Philadelphia, reports a case of epithelioma that had been treated heroically with caustics. After the cancer was removed and the sore healed, a thick cicatrix was left and quite a large V or heart-shaped space, as though cut out with a knife. It was not long after that the epithelioma began to make its reappearance. When seen by the author, there was great tumefaction and inflammation of the entire lower lip and chin. In the cicatrix there were several small ulcers differing in size from a pin's head to about ⅛ inch in diameter. There was unbearable stinging, burning, and itching. The author treated the affected part with induction galvanofaradism, and to hasten the softening of the cicatricial tissue, the following wash was applied with gentle friction, night and morning:

Guaiacol.....½ dr.
Glycerin.....½ oz.
Thiosinamide.....½ dr.
Distilled Water.....½ oz.

The local trouble disappeared entirely and the patient is in excellent health.

¹ N. Y. Med. Jour., Mar. 22, 1902.

² Rev. de Thérap., LXIX, No. 3.

¹ Med. Sum., April, 1902.

ICHTHARGAN TREATMENT OF GONORRHEA

The advantage claimed for this new anti-gonorrheic remedy is its high percentage of silver. While protargol, argonin, etc., contain from 4.2 to 15 per cent. of silver, ichthargan contains no less than 30 per cent. Ichthargan is a brown, amorphous, stable powder, with a faint odor suggestive of chocolate, and easily soluble in water. The solutions should be kept in dark bottles. Investigations have shown that ichthargan possesses a greater germicidal power than silver nitrate, due perhaps to the ichthylol contained in it. The drug has been quite extensively tried in gonorrhea and the reports are very favorable.

Dr. E. Saalfeld¹ has employed the remedy in 140 cases of gonorrhea. Various stages and localizations of the disease were represented. In acute gonorrhea, injections with ichthargan, 1 grm. in 8 oz., were ordered every three hours, gradually increasing the strength to 1½ grm. in 8 oz.

Irrigations of the urethra were performed with solutions of 1:4000 up to 1:750. For instillations, ½ to 5-per-cent. solutions were used.

The author agrees with others that ichthargan has the advantage of being less irritating than the older silver-preparations. He believes that gonorrhea can be cured by using ichthargan only, graduating the solutions according to the stage and intensity of the disease. This feature ought to give the new remedy a decided preference over its old competitors.

Dr. B. Goldberg² employed ichthargan in a series of sixty cases. He used solutions of the average strength of 1:3000 to 1:2000. Strong solutions, often up to 1:500, were used from the beginning. According to the seat of infection, the intensity of inflammation, the condition of the urethra, etc., the form of application was different. In the form of injections, from 1 to 4 drams each were given. The duration of the injection varied with its concentration: thus, it was five minutes with a 1:3000 solution, and was repeated every five hours; or it was three minutes with a solution of 1:1500, repeated every eight hours, etc. In the form of irrigations the drug was applied either to the anterior urethra only, or, after washing out the latter, to the posterior urethra and the bladder.

The action of ichthargan is first of all antiseptic. Solutions of 1:500 will kill gonococci in cultures within one minute; in the strength of 1:1000, five minutes are

necessary, and even in 1:10,000 the gonococci die in twenty minutes. Another feature of ichthargan is its desquamative action, bringing about an increased secretion for a time, and thus favoring the elimination of the gonococci. Finally, the remedy acts as an astringent. On account of the fortunate combination of these different properties, ichthargan is a very reliable anti-gonorrheal remedy.

OOPHORECTOMY AND THYROID IN INOPERABLE CANCER

Dr. Walter Edmunds¹ reports a case of recurring carcinoma of the breast that had been repeatedly operated upon. Five years after the first operation the woman—then forty-one years of age—became extremely ill with symptoms of intra-thoracic growth and bronchitis. There was a tumor in the right breast (the left had been excised), with enlargement of the axillary glands; also a small, flat tumor in the skin behind the left ear. She complained of shortness of breath and dyspnea. Oophorectomy was performed and thyroid was administered. Two months after the operation the patient was much better and stronger. The tumor in the breast and the glands in the axilla had almost disappeared, the stridor in the breathing was gone, and the tumor behind the left ear was also much smaller. The administration of thyroid was continued. A year after the operation, the patient had gained flesh, become much stronger, been nearly free from dyspnea, and in fact was quite a "different woman." There was then a small tumor in the breast and a lymphatic cord could be felt running up toward the axilla, but there were no enlarged glands in the axilla and the small growth behind the ear had disappeared.

Whatever may be the further history of the case, says the author, the great benefit which the patient enjoyed for a year entirely justified the operation.

LARGE DOSES OF ARSENIC IN CHOREA

Dr. Robert Turner² is in favor of large doses of Fowler's solution in chorea, and in support of his position reports the following case: A boy, aged nine years, of nervous disposition and rheumatic family history, was sent home from school "because he could not sit quiet with the St. Vitus's dance." For eight days he attended the dispensary of one hospital, and for two more weeks the dispensary of another hospital, but without much benefit. When the author saw him, the movements of his head

¹ *Therap. Monatsh.*, March, 1902.

² *Therap. Monatsh.*, March, 1902.

¹ *Lancet*, No. 4100.

² *Brit. Med. Jour.*, No. 2155.

and arms were violent. He was put at once on 12-min. doses of Fowler's solution, together with some sodium bicarbonate with his meals. The boy's appetite was good and he vomited only once on the third day. On the fifth day his eyes became affected, and there were slight cramps in the bowels, but the choreic movements were abating rapidly.

The patient could now feed himself without spilling food, he did not knock his head against the furniture, and could be left alone in the house. The dose of Fowler's solution was reduced to 5 min. and discontinued on the eighth day. There were no further toxic symptoms, and the chorea was entirely cured.

HOSPITAL TREATMENT OF TUBERCULOSIS

The curability of pulmonary consumption is an established fact. However, to obtain a cure the disease must be recognized early and treatment must be energetic. While it is further granted that a sanatorium is the best place for a consumptive, our social shortcomings necessitate the treatment of many tuberculous patients at home or in general hospitals. Dr. Hugo Winternitz¹ discusses the management of the consumptive in a general hospital. Hygienic and dietetic measures are of prime importance. Abundance of pure air, good and plentiful food, especially milk in large quantities, mild hydrotherapy, and breathing exercises are all of the greatest value and pave the way for medicinal treatment.

We possess no specific against tuberculosis, but creosote is almost universally esteemed as next best to a specific. However, its toxic and unpleasant properties have led to a search for substitutes, and we have seen creosote carbonate, guaiacol, and guaiacol carbonate upheld as ideal successors to creosote in the treatment of phthisis. More promising than all these the author considers thiocol, on account of its being odorless and easily soluble in water. Thiocol is a perfectly stable compound of guaiacol, and appears as a white, crystalline powder, slightly bitter in taste, and absolutely odorless. The author has used the drug in the form of a syrup, prepared according to the following formula:

| | |
|-----------------------|--------|
| Thiocol..... | 2½ dr. |
| Water..... | 10 dr. |
| Fld. Ext. Orange..... | 1 dr. |
| Simple Syrup.. | 3 oz. |

Three or four teaspoonfuls daily (equal to about 16 to 24 grains of thiocol).

Or the drug may be given in powders or tablets, 8 grn. three to four times daily.

Sixteen cases of tuberculosis were thus treated for several months with gratifying results. No unpleasant effects were noticed. The appetite improved, bodily weight increased, night-sweats subsided, and cough and expectoration were favorably influenced.

In advanced cases the cough-irritation often requires sedatives, and the author warns against the indiscriminate use of morphine. Codeine and dionin generally suffice to allay the tormenting symptoms. Dionin is given in doses of ½ grn., preferably in solution.

The psychic element of treatment should also receive our attention, and the patient ought to be encouraged in his hopeful attitude.

IMPORTANT RESEARCHES ON VERATRUM VIRIDE

Dr. Arturo Gilardoni,¹ of the Medical Clinic of the University of Pavia, has made important investigations regarding the physiologic and therapeutic action of veratrum viride. The experiments were made on animals and on human beings. His conclusions are as follows:

1. Veratrum viride administered per os or hypodermically lowers the arterial pressure.

2. The degree of the arterial depression is very great: it is the greatest that can be obtained therapeutically, and is influenced by the dose of the drug and by its mode of introduction. The lowering of the pressure is greater when the drug is given hypodermically. In cases suffering with increased arterial tension, the depression is lower than in normal individuals.

3. The duration of the lowering of the pressure also varies with the dose administered, and with the mode of introduction. With an average therapeutic dose, the duration is about two hours; with larger doses, or small doses given hypodermically, the duration is from three to four hours.

4. The period of the descent of the pressure is more rapid than the period of ascent. The pressure commences to go down in about fifteen minutes after the administration of the drug.

5. With a continuous administration of veratrum viride a "permanent" diminution of the arterial pressure may be obtained. In one case the pressure remained low for twenty days; in two others for fifteen days, and there was nothing to indicate that the condition could not be maintained permanently, only the patients left the clinic. This observation is very important, because it establishes the fact that veratrum may be

¹ *Deut. Aerzte-Zeit.*, 1902, No. 1.

¹ *Gaz. Med. Italiana*, 1902, Nos. 10, 11 and 12.

administered for long periods without losing its power. In this respect it differs from and is superior to all other arterial depressants.

6. The diminution of the arterial pressure is accompanied by a remarkable and proportionate diminution in the frequency of the pulse, without, however, any change in the regularity of its rhythm or its form.

7. In the doses required for therapeutic effect, *veratrum viride* is always well borne. In one case, where the patient by mistake took at one dose the entire quantity intended to be taken during twenty-four hours, there was vomiting and diarrhea.

8. In addition to arterial depression, the drug almost always produces increased diuresis, with an increase of the specific gravity and of all the solid constituents of the urine.

9. *Veratrum viride* favorably influences the entire symptom-complex which results from arterial hypertension.

OREXINE IN SEASICKNESS

Dr. C. V. Wild¹ has administered orexine tentatively in a case of "car-sickness" affecting a lady whenever traveling in railway-cars. The success went further than the expectations, and since the experiment orexine has become the lady's constant traveling companion.

Other similar cases having yielded as promptly to the drug, the author resolved to test its efficacy in genuine seasickness. Before sailing, a dose of 5 to 8 grn. of orexine tannate was prescribed, to be followed in two hours by a hearty meal. If necessary, the same dose may be continued regularly two hours before meals, three times daily. The remedy is best taken in a cup of broth.

The success achieved was most unequivocal and further experiments are being conducted by the author.

COLLOIDAL SILVER IN SEPTIC ENDOCARDITIS

Septic endocarditis is well known to be one of the most rebellious affections to treat. In fact our treatment is usually only expectant and symptomatic, and the prognosis is universally considered very unfavorable, though isolated instances of cure are on record. Prof. K. F. Wenckebach² says the requisite for the cure of an infectious ulcerative inflammation of the endocardium, with subsequent infection of the blood and the entire organism, is an antiseptic that does not injure the blood itself.

and which, brought directly into the circulation, is powerful enough to destroy the bacteria living in the vital fluid, and to disinfect the disease focus in the endocardium. The *argentum colloidal*, which Cr  d   has so highly recommended for septic processes, and which has been placed upon the market under the name of collargol, seems to be such a remedy. It can be employed both internally and externally, and in 1- to 2-per-cent. solution it can also be injected directly into the blood.

He reports in detail two cases of undoubted septic endocarditis, in which the beneficial results of the colloidal silver were unmistakable. The dose injected ranged from $\frac{1}{5}$ to $\frac{3}{4}$ grn. of the metal, in the form of a 1- or 2-per-cent. solution. As to the rationale of the action of colloidal silver, the author has this to say: In colloidal silver we are dealing with a very peculiar body both from a physical and chemical point of view. The colloidal metals are ranked among the "inorganic ferments." Colloidal platinum especially is a powerful catalysator; that is to say, reactions that are usually excessively slow or even hardly noticeable, take place with lightning-like rapidity in the presence of even minute quantities of it. It is this peculiar property of the colloidal metals that, in the author's opinion, gives the greatest importance in biology and therapy to these substances. Very finely divided but non-colloidal particles of silver do not have this curative effect in the blood. His own observations in other cases show with great probability that extremely minute quantities, as 5 milligrams ($\frac{1}{12}$ grn.), show full effects in a circulating fluid that must be measured by quarts. Hence it is probable that colloidal silver acts as a catalysator in the animal body; that by its presence the normal but inadequate bactericide properties of the blood are enormously increased. This would also explain the manner in which the colloidal silver rubbed into the skin in the form of ointment is capable of exerting a favorable influence upon the most varied pathologic conditions. That, as experience teaches, the inunctions or injections must often be repeated, does not militate against this explanation; for it is well known that the material in question is very rapidly excreted out of the body again.

Experimentation only can enlighten us as to the exact nature of the curative effect exerted by the remedy. Other catalysators may be found, and such experimentation promises great things for the future development of therapeutics.

¹ *Archiv. f. Schiff- und Tropen-Hygiene*, 1902, No. 6.

² *Therapie d. Gegenwart*, 1902, No. 2.

COLLOIDAL MERCURY

Colloidal mercury is an allotropic, soluble form of the metal. It is a rather recent discovery of modern chemistry and has been utilized for therapeutic purposes. Dr. Oscar Werler¹ has used the new preparation in a long series of cases and offers these conclusions:

1. In colloidal mercury we possess a soluble, reliable antisyphilitic, characteristic for its mildness, prompt action, and non-toxicity.

2. The soluble mercurial is a specific in all syphilitic affections, regardless of the stage of disease.

3. The best mode of administration is the 10-per-cent. ointment, unguentum hydrargyri colloidalis. It is rapidly absorbed, does not irritate the skin and mouth, and is eminently suited for the inunction treatment of syphilis. From $\frac{1}{2}$ dram to 1 dram may be rubbed in daily. The total amount necessary for a cure varies from 4 to 8 oz. of the ointment.

TREATMENT OF ERYSIPELAS

Dr. C. E. Boynton² thus outlines the treatment of erysipelas:

1. Paint inflamed area and all area within 2 or 3 inches with pure ichthyol; reapply every two to eight hours, letting it remain.

2. Give $\frac{1}{20}$ grm. of pilocarpine in hot water every hour, unless the patient is very weak, when a smaller dose may be used or ammonium acetate substituted, until perspiring freely.

3. Give $\frac{1}{67}$ grn. of strychnine arsenate every two hours, as a supporting treatment.

4. Ten grains of calomel at the first call, followed by 1 dram of sodium phosphate every hour, until bowels are thoroughly acted upon.

5. Quinine and calcium sulphide may reinforce the above, and the patient will be all right in from three to ten days.

Dr. G. H. Franklin, in the same number of the journal, says that his treatment is aconite, belladonna, quinine, and iron, as indicated; locally, always a 33-per-cent. ichthyol ointment. He tried jaborandi in one case, but was not pleased with its effect.

DIONIN IN OPHTHALMOLOGY

Dr. Geo. B. McAuliffe³ states that a 5-per-cent. solution of dionin instilled into the eye every five minutes for half an hour gives relief in deep-seated inflammations beyond the reach of other analgesic remedies. It

causes some edema of the lids when it relieves the pain.

Dr. Luniewski¹ experimented with dionin in ocular affections, using solutions of $\frac{1}{2}$ to 10-per-cent. strength, and ointments of 25-per-cent., as well as the pure powder. Applied to the conjunctival sac dionin causes the following symptoms: At first a burning sensation, which soon gives place to a feeling of pleasant warmth, a sense of pressure and fulness about the eye and forehead. This is followed by anesthesia. The swollen conjunctiva prevents the lids from being closed. Redness, a strong secretion of tears, and swelling of the lids are the usual objective phenomena.

The author gives the following résumé of his experiments: In acute conjunctivitis, in trachoma, in blepharitis, and in scleritis, dionin is of no value. On the other hand, it is useful in pannus, in fresh parenchymatous keratitis, and in opacities of the vitreous body. Strikingly good results were obtained in iritis, the drug acting as an analgesic and assisting the effects of atropine. Some benefit was also noted in xerosis epithelialis, in burns with lye, and in affections of the lacrymal sac. In one case of detached retina dionin gave excellent results. Glaucoma was not influenced by the treatment.

As to the *modus operandi* of dionin, experiments on animals have shown that the drug produces certain alterations in the epithelium of the capillaries, resulting in abundant secretion of plasma into the loose connective tissue. A condition of venous stasis supervenes, and the excess of plasma leads to improved nutrition of the cells and aids the removal of pathological products. To the pressure of the lymph is also due the analgesic action of the drug. The indications for dionin are therefore given whenever a rapid absorption of inflammatory products is desired, or when prolonged anesthesia is wanted. It is contra-indicated in elderly people with arteriosclerosis.

THERMIC APHORISMS

Dr. Marcus P. Hatfield² lays down the following thermic aphorisms, applicable in children's practice:

1. *Transient* high temperature (below 104°) is of little clinical significance in the case of the child.

2. *Barring cerebral lesions*, continued high temperature in the child is evidence of the accumulation and attempted destruction of toxins in the organism of the child.

¹ *Therap. Monatsh.*, xvi, No. 3.

² *Med. World*, March, 1902, p. 107.

³ *Med. Critic*, Feb., 1902, p. 124.

¹ *Heilkunde*, vi, No. 2.

² *Chicago Clinic*, 1902, p. 90.

3. *Except in rhachitic* children this process is conservative—rarely requires other than hydropathic treatment.

4. The promptest antipyretic for children is antipyrine in alcoholic solution given either by the mouth or rectum.

5. The safest antipyretic, though slow in its action, is quinine by inunction or suppository.

6. An antipyretic that is analgesic as well as antithermic is antifebrin (acetanilid), best given in a dilute solution of arom. spirit of ammonia.

7. Phenacetin, as an antipyretic for children, is slow in its action—at times, cumulative—and may be profitably substituted by lactophenin given in the same doses.

8. Pathognomonic temperature curves on account of the nervous instability of the child are less frequent than in adults, and this is especially true of typhoid, malaria, and broncho-pneumonia.

CHAULMOOGRA OIL IN TUBERCULAR LEPROSY

Dr. G. T. Elliot¹ demonstrated recently a case of tubercular leprosy of about two years' duration. The location of the disease was on the face, arms, and thighs; the tubercles ranged in size from a small shot to a bean, and were scattered over the thighs and arms. Under chaulmoogra oil the man improved to a remarkable degree. At the time of demonstration the man had been under treatment but eighteen days, but the lesions had improved unmistakably. He was taking 20 drops of the oil three times a day, in milk.

The author also demonstrated at the same meeting a case in the early stage of mycosis fungoides, which improved wonderfully under chaulmoogra oil. The man on admission to the hospital had an infiltrated, fissured, bleeding surface generally; the hands were badly fissured; circular patches throughout the body; there was also considerable weeping, especially on back, chest, and axillæ. The condition had existed for five years, nevertheless the improvement was "marvelous." Dr. Prince A. Morrow corroborated the good effects of chaulmoogra oil in this condition, and said that he would also try sodium cacodylate, which seems to be remarkably effective in improving the nutrition of the skin.

STYPTICIN

The need of a local hemostatic that would combine promptness and certainty of action with innocuousness has long been recognized. Neither ferric chloride nor

absolute alcohol, nor suprarenal extract are altogether satisfactory considered in this respect.

The almost ideal hemostatic seems to have been discovered in stypticin. This remedy is very popular with gynecologists as an internal styptic in uterine bleeding; it has been successfully used in hemorrhages from the bladder after the introduction of sounds, and dentists speak favorably of its efficiency in the hemorrhage after tooth-extraction, etc.

Dr. R. Kaufmann¹ confirms the previous reports on stypticin. He uses it chiefly as a local hemostatic in manipulations about the urethra, in circumcision, etc. A piece of cotton may be soaked in the solution of stypticin and applied. No caustic effects need be feared.

The hemorrhage following the extraction of a tooth, while usually ceasing of its own accord, occasionally persists and gives rise to difficulties in checking it. If the patient should chance to be a bleeder, the trouble will be quite serious and the usual styptics will be found unavailing. Stypticin is, however, highly recommended in such emergencies as a prompt styptic.

THE TREATMENT OF ITCHING

Itching is a symptom of numerous diseases, states Dr. M. B. Hartzell,² and may be present in all degrees, from slight irritation to the severest torture, which drives the patient to tear his flesh in his frantic attempts at relief. The names of proposed antipruritic remedies is legion, and this circumstance is an infallible sign that most or all of them are not *absolutely* reliable and efficacious.

Naturally, treatment should begin with the cause, if possible. Often this is some dietetic indiscretion or indulgence. In some persons coffee produces the itching, in others it is tobacco, or opium, etc. Internal diseases are often at the root of the evil. Chronic nephritis, jaundice, diabetes mellitus, and others, lead to pruritus, and treatment must be directed against these affections.

Internal remedies for itching are not so useful as local applications, for obvious reasons. Bromides in large doses, cannabis Indica in 10-minim doses (gradually increased to 30 min.) of the tincture, gelsemium in 10-min. doses of the tincture every half hour until mild toxic effects are evident, are the usual resources. Sometimes the fluid extract of jaborandi in 15- to 20-

¹ *Jour. Cut. and Genito-Urin. Dis.*, No. 23.

² *Monatsh. f. Pract. Dermatol.*, 1902.

² *Therapeutic Gazette*, xxvi, No. 2.

min. doses is useful, when the skin is abnormally dry. Acetanilid, antipyrine, and salol are occasionally serviceable, the last-named where gastro-intestinal fermentation is present. Opium and its alkaloids are contra-indicated, since they themselves cause pruritus.

Local treatment is, however, our mainstay in most instances. In mild cases inunction with some bland fat, as cold cream, almond oil, and petrolatum, will give relief. Bathing the parts in hot water is sometimes efficient, but is not permissible in eczema. Carbolic acid, called "the opium of the skin," is most generally useful. It may be applied in ointment or lotion, like the following:

Carbolic Acid..... $\frac{1}{2}$ dr.
Glycerin..... 2 dr.
Camphor Water.....to make 4 oz.

This is mopped on the affected parts every three to four hours.

Or:

Carbolic Acid.....10 to 15 grn.
Starch,
Bismuth Subnitrate, of each....2 dr.
Petrolatum..... $\frac{1}{2}$ oz.

Sometimes toxic symptoms arise from the use of carbolic acid over large areas, especially if ointments are employed. Lotions are safer in such cases. The following mixture is highly recommended:

Carbolic Acid,
Solution Potassa,
Linseed Oil, of each..... $\frac{1}{2}$ oz.

This mixture may prove too strong in inflammatory conditions, but is indicated in local and general pruritus.

Next to carbolic acid, menthol is a valuable antipruritic, especially in the itching of eczema, in pruritus ani, and in pruritus vulvæ. It is best applied in ointment, being slightly soluble in water, and alcoholic lotions being undesirable in inflammatory conditions of the skin:

Menthol..... 8 grn.
Starch,
Zinc Oxide, of each..... $1\frac{1}{2}$ dr.
Ointment Rose Water..... 5 dr.

This paste produces an agreeable cooling and soothing sensation, and its strength may be varied, but more than 10 grn. of menthol to the ounce will generally result in severe burning after the sensation of cold has subsided. In the face, menthol must be avoided, as it irritates the eyes.

Resorcin is another useful remedy, especially in moist eczema. The following is a good combination:

Resorcin.....12 to 30 grn.
Sodium Chloride.....15 grn.
Glycerin..... 2 dr.
Lime Water....to make 4 oz.

In senile pruritus and certain other forms

of itching, thymol acts well in the form of a lotion:

Thymol.....8 grn.
Solution Potassa.....1 oz.
Glycerin3 dr.
Water..... $\frac{1}{2}$ pint.

Of the tar preparations, *liquor carbonis detergens* is the most eligible, used in strengths of 10 min. to $\frac{1}{2}$ dr. to the ounce of water. This lotion is serviceable in eczema with itching, but is not so good in simple pruritus. Mercury bichloride is often a valuable application in pruritus of the scrotum and perineum. It may be combined with carbolic acid, $\frac{1}{2}$ to 1 grn. of the former and 5 to 8 grn. of the latter to the ounce of water.

In lichen planus the following combination acts well:

Mercury Bichloride..... $\frac{1}{2}$ to 5 grn.
Carbolic Acid.....20 grn.
Zinc Ointment..... 1 oz.

This salve relieves the itching and favorably influences the eruption.

The most obstinate forms of itching are pruritus ani and pruritus vulvæ. They often resist all the routine remedies. In these cases a solution of silver nitrate, 10 to 60 grn. to the ounce of water, painted over the parts every other day, acts very well. Painting with spirit of nitrous ether, with compound tincture of benzoin, or with camphor-chloral, is also efficient.

When the muco-cutaneous border of the anus is the seat of itching a 5-per-cent. cocaine ointment will give speedy relief.

ICHTHYOL IN TYPHOID FEVER

Dr. Soet¹ tried ichthyol in nine cases of typhoid fever. In one case the drug was given in the last stage of the disease, for the weakness and anemia, and with good effect. The patient took daily from 3 to 8 pills, each containing $2\frac{1}{2}$ or $1\frac{1}{2}$ grn. of ichthyol.

The author administered the remedy in pills or in solution, with plain or peppermint water; 5 to 20 drops of the solution were given thrice daily before meals in one-third glass of water. The patients soon learn to drink without tasting. To cover the unpleasant flavor a piece of chocolate may be taken immediately after the dose. This method corrects the taste of all unpleasant drugs. The headache promptly disappeared and the appetite improved noticeably after the first few doses. Of all symptoms, says the author, only the fever showed that the disease was still there. Since the drug is absolutely harmless, the author recommends further trial of it in typhoid fever.

¹ *Aerztliche Praxis*, XIV, No. 1.

MERCK'S ARCHIVES

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FOR THE GENERAL PRACTITIONER

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MAY, 1902

EDITOR'S NOTES

Baccelli, Koch, and an Interesting Incident Pointing out Some Lessons

IN his opening address before the Eleventh Italian Congress of Internal Medicine, Prof. G. Baccelli related the following curious incident: One day while Prof. Koch was in Rome studying malaria, he paid a visit to the hospital of which Baccelli had charge, and saw there a patient dying from pernicious malarial fever. Koch requested that the corpse be saved for him for his investigations. After he left the hospital, Baccelli's friend, Prof. Rossoni, gave the patient an intravenous injection of quinine hydrochlorate. When the celebrated bacteriologist came the next day to commence his studies on the cadaver, he found the patient fully alive and with no immediate indications of becoming a cadaver. Prof. Koch's wonder was so great that he did not believe his own eyes.

Baccelli relates this incident in order to show the great efficacy of the intravenous-injection therapy. To our mind, it teaches several other lessons. It teaches that the incurable and "absolutely fatal" condition of to-day may be the curable disease of to-morrow; it teaches the truth of the homely adage that as long as there is life there is hope, and that it is unwise to sell a bear's skin before the animal is killed. In other words, that it is risky and unwise to give an *absolutely* unfavorable prognosis in almost any case. In short, this incident corro-

borates the lesson that we tried to convey in our editorial of last month. To the medical cynic of a certain class this incident will probably serve as a corroboration of his belief that to Koch and the medical scientists of his type the post-mortem findings are of considerably more interest than the cure of the patient.

* *

Should Pyrexia Be Treated?

THE contradictions that we occasionally encounter in therapeutics are sometimes exasperating. We have heard so much about the irrationality and the danger of giving antipyretics in fever, that the practice is looked upon by many as almost on a par with malpractice. Now comes Jendrassik, a man who is not to be poo-pooed by any means, and says that antipyretics are useful and should be given throughout the entire course of pyrexia. Dr. Robert Main writes to the *British Medical Journal* to express his full agreement with Jendrassik's views. He says that he has given antipyretics continually during the course of typhoid fever for the past twelve years, and with the most satisfactory and successful results, without ever noticing any untoward symptoms. He uses acetanilid, and this he gives in doses of 4 to 12 gm., dissolved in brandy, every six to eight hours, according to the height of the pyrexia and the age of the patient. He treated over a hundred cases of typhoid without a single death, and the convalescence in his cases has been unusually short.

Now, where are we at? The truth in this as in many other cases is probably in the middle. When the pyrexia is mild, it might be left alone or treated hydrotherapeutically; antipyretics in small doses, carefully administered, guarded by a cardiac stimulant, are not dangerous. But hyperpyrexia must be combated promptly and energetically.

* *

The Action of Drugs as Affected by Dosage

SEVERAL months ago we had the following to say regarding the importance of a knowledge of the varying action of a drug as influenced by varying doses:

"It appears to us that one of the problems to engage the attention of the twentieth century therapeutists and pharmacologists will be the action of drugs as influenced by the dosage. This part of pharmacology has been neglected too much. There are hundreds of drugs whose action not only varies under different dosage, but is diametrically different. Ipecac in very small doses allays vomiting; in large doses it excites it. Cocaine in small doses excites the reflexes; in

large doses it depresses them. In the case of a number of drugs it will therefore be insufficient in the future to attach a label—depresso-motor, excito-motor, emetic, etc. The different action in different doses will have to be stated.”

Commenting on the above, the *Medical Times*—that broad-minded organ which has done so much toward breaking down the barriers between the different sects, and towards inculcating a more tolerant spirit in the medical profession—says editorially in a recent issue (April, 1902):

“This statement confirms what we have so often repeated, that the dual action of drugs should be taught in all medical schools, as then we would have not only an improved therapeutics, but also the annihilation of sects in medicine.

“This question of dosage is the very foundation of the practice of medicine, and its solution and general adoption will prove the greatest boon to humanity. The physician who uses drugs only in larger doses, or in smaller, neglects one-half of the armamentarium which should be his. The indications which decide the dose are so diametrically different that it is easy for the student well versed in drug-effects to apply his knowledge for the purpose indicated.

“The writer has not been without many interesting experiences along this line, in his long and varied practice. As an instance, showing how the dual action of drugs applies, may be mentioned the case of a convalescent from typhoid fever, who suffered from hemorrhoids. It was a case in which aloes in small doses was required. The attending physician at that time having had no experience with this drug in such an affection, and fearing that it might bring on a return of the diarrhea, declined the responsibility, which was assumed by the writer, who was the consultant in the case.

“The relief was instantaneous and the cure immediate. In this case external applications had been exhausted and a surgical operation advised. It was an experience that never will be forgotten by anyone concerned. . . .”

* *

The Discovery of Atropine

THE second, third and fourth decades of the last century were memorable ones in the history of medical chemistry. It was during that period that the existence of the most important “active principles” was demonstrated, and that many alkaloids were isolated. The following extract from the *London Lancet* of 1824 will prove interesting, as showing that, while atropine was isolated in a state of purity in 1833 (by the

German apothecary Mein), its existence and properties were known quite a few years before. (And by the way, the definition of an alkaloid given at that time holds fully good at present—“an organic alkaline substance, which can neutralize acids and form with them salts capable of crystallization, and possessing very powerful properties”):

“Dr. Runges, professor at the University of Berlin, read a memoir on a new method of detecting the narcotic principle of the atropa belladonna, hyoscyamus niger, and datura stramonium in cases of poisoning by those plants. These substances, applied to the eye, have the property of dilating the pupil, and Dr. Runges, by examining the extracts and pharmaceutical preparations from medicinal plants, as well as a great number of substances derived from the animal kingdom, has ascertained that the property of dilating the pupil is peculiar to the above-mentioned plants. His method consists in boiling the stomach or intestines of the animal poisoned by those vegetable substances, evaporating the aqueous solution to the consistency of an extract, and applying it with a camel-hair pencil to the eye of an animal. He prefers performing this experiment on the cat, because the form of its pupil affords a better opportunity of witnessing this phenomenon.

“He subjected the blood and urine of animals poisoned to the same process, but he could only demonstrate the presence of the narcotic principle in the urine. The property of dilating the pupil, peculiar to these plants, depends on a chemical principle, each of them containing an organic alkaline substance, which can neutralize acids, and form with them salts, capable of crystallization, and possessing very powerful properties. This chemical principle has been named *koromegine*, from its power of dilating the pupil.”

* *

Moriz Kaposi

THE death of Moriz Kaposi, the celebrated Vienna dermatologist, removes one of the most forceful and positive personalities from the medical arena. His career is another illustration of the fact that in the present age true talent, coupled with a will and capacity for work, does not go unrecognized. Born in Hungary of poor Jewish parents, he became by personal effort one of the authoritative and sought-for dermatologists of the world. His lecture halls and his clinics in the Vienna University were always crowded, because he knew how to impress points of differential diagnosis on the minds of his hearers. He was extremely popular with American students.

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

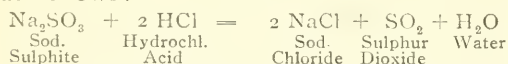
Incompatibility of Sodium Sulphite with Acids

Dr. J. B. C. submits for our criticism the following prescription, which he ordered for gastric fermentation. The medicine had a very unpleasant smell at first which gradually, however, disappeared. He asks whether the prescription may be so compounded as not to have a bad smell.

| | |
|------------------------|-----------|
| Sodii Sulphitis..... | 3 vi |
| Ac. Hydrochl. Dil..... | 3 ij—3 iv |
| Tr. Nuc. Vom..... | iiij |
| Tr. Cardam. Comp..... | i |
| Aque, ad..... | vi |

Teaspoonful after meals.

This prescription is incompatible. Sodium sulphite and a mineral acid should never be prescribed together, and if prescribed the druggist, if he knows enough, should call the doctor's attention to the incompatibility. The bad odor is due to the fact that sulphur dioxide, or sulphurous acid gas, is evolved through the action of the acid on the sulphite. The equation is as follows:



Of course, the peculiar antifermentative action of the sulphite is also lost, because the SO_2 gradually volatilizes, while a portion of it is oxidized to sulphuric acid.

Villate's Liquor or Solution

Dr. J. R. asks for the composition of "Villet's solution," used for injecting into carious or tuberculous bones.

What is probably meant is Villate's liquor, the formula of which is stated to be:

| | |
|---------------------------|--------------|
| Zinc Sulphate..... | 15 grn. |
| Copper Sulphate..... | 15 grn. |
| Solut. Lead Subacetate... | 30 min. |
| Diluted Acetic Acid..... | 3½ fl. drams |

Action of Paraldehyde

Dr. N. A. R. writes: Kindly answer the following questions regarding the action of paraldehyde. Has it any action on the heart? Would a continued use of it result in drug habit? Is the use of it in any way deleterious?

There is no hypnotic which can be used for an indefinite time without some disagreeable effects making themselves apparent. The action of paraldehyde on the heart and circulatory system is very slight—practically nil in moderate doses; but it is very likely to upset the stomach unless given in the form of a well-prepared emul-

sion, or dissolved in almond oil and flavored. Cases of paraldehyde habit have been reported (by Kraft-Ebing and others), but they are very rare. Ordinarily, there is nothing to fear in this direction.

Jequiritol

Dr. H. I. writes: Please give me some information about jequiritol. Is it used internally or externally in the treatment of pannus, etc.?

Jequiritol is dropped into the eye and not used internally. There are four solutions of gradually increasing strength, and each solution has its serum of corresponding strength, which serum is used to counteract any excessive or undesirable irritation which may be caused by the instillation of the jequiritol. Any excessive reaction can thus be stopped absolutely, and this fact may perhaps lead to a more extended use of jequiritol. The reason jequirity seeds or abrin never gained a foothold was chiefly due to the fact that, whenever excessive reaction was set up, it could not be controlled.

Tasteless Cod-Liver Oil—Ichthyol Pills

Dr. L. O. B.—A palatable, "tasteless cod-liver oil," similar to the one of which you inquire the formula, may be made as follows:

| | |
|---------------------------|------------|
| Fl. Ext. Wild Cherry..... | 2 fl. oz. |
| Fl. Ext. Licorice..... | 3 fl. oz. |
| Glycerin..... | 1 fl. oz. |
| Syrup..... | 1 fl. oz. |
| Liq. Ext. Malt..... | 6 fl. oz. |
| Syrup Hypophosphites..... | 3 fl. oz. |
| Gaduol..... | 64 grn. |
| Fuller's Earth..... | 4 dr. |
| Caramel..... | as desired |

Mix the gaduol with the glycerin, and triturate with the fuller's earth; add the fluid extracts, syrup and malt; shake well, and let stand for a day, occasionally shaking; filter, add the syrup of the hypophosphites to the filtrate, and mix well.

Creosote carbonate and ichthyol may be made into pills, but a good deal of excipient would have to be used, and pills of moderate size would contain but small amounts of the active ingredients. When pills of ichthyol are desired it is preferable to use *ichthyol-sodium*, which is of firm consistence, instead of the regular ichthyol, which is ichthyol-ammonium, and is of a fluid consistence. No competent druggist should have any difficulty in making pills or capsules from ichthyol-sodium and creosote carbonate.

Origin of the Word "Glonoin"

Dr. J. C. B. writes: Will you kindly tell me from what the name *glonoin*, the synonym of nitroglycerin, is derived. I could not find its origin in any of my reference books.

The name is derived from the *letters* constituting the *chemical formula* of the com-

pound, the letters Gl being used to represent the glyceryl radical. The formula is $C_3H_5O_3 (NO_2)_3$; substituting C_3H_5 by Gl, we get GlONO—the chief letters of glonoin.

Hyoscine in the Treatment of Morphinomania

Dr. A. N. R. writes: I should appreciate some information regarding the use of hyoscine in morphinomania, especially its *modus operandi*. Do you personally approve of this treatment, especially of the large and frequent doses that are recommended— $\frac{1}{100}$ grn. of hyoscine every thirty minutes, etc.?

We have had no personal experience with this method of treatment, but can see no theoretical objections. Dr. M. K. Lott, of Texas, is an enthusiastic advocate of the treatment of drug habits by hyoscine, and the following extract from a letter of his (*Therap. Gaz.*) should shed some light on the subject:

"I do not know how it (hyoscine) does good, except that it prevents those terrible symptoms of pain and collapse from which a patient suffers when his daily dose of morphine is withdrawn from him. Under the influence of hyoscine he passes through that period without being aware of any pain, or chills, or hot flushes, or spasm, or cramp; and when he comes from under the hyoscine he feels that he is a free man and has no need or desire for morphine or whatever drug he was taking.

"My experience is entirely empirical. I do not know how it acts. I have used it so long and on so many patients that I can afford to be dogmatic, and stand on the positive statement that the treatment is a success, is devoid of danger in careful hands, is without pain, and will free any person from the morphine habit, no matter how much he used per day, or how long he has been a habitué. Morphine and opium paralyze to some extent the nervous system and the vasomotor nerves. The first effect of cocaine, opium, alcohol, etc., is to stimulate the nervous centers in those who have formed the habit.

"Hyoscine is powerful in its stimulation of the nerve centers; its action is not depressing to the patient, and is opposite to that of morphine. Hyoscine dilates the pupil, relaxes the bowels—in fact, relaxes the entire system—and a patient under its influence could not walk, for if permitted to get up he would fall.

"I do not claim it to be a complete antidote for the drugs mentioned. A person taken off of morphine is not disgusted with morphine so he could not take it again. The hyoscine simply bridges over that period of two or three days of suffering, which is be-

yond human endurance, that comes to the habitué if his drug is suddenly withdrawn from him. I believe that if one could undergo the suffering for the first two or three days after the withdrawal of his dose he would be over the morphine habit, and his recovery would be a question of time, depending on environment and recuperative power.

"On November 2 I put a man forty-eight years old under treatment. He had been using a dram of morphine by the mouth every day for ten years. The patient was of course emaciated—indeed, he was the picture of despair. He was a telegraph operator by occupation, but blacklisted on all the lines of railway. Every particle of medicine was given hypodermically, and tablets were used. I wish to state that this man was the hardest one to treat that I have had, and he took twice as much hyoscine as I have ever given to any one else. And yet from start to finish there was at no time the slightest cause of alarm or uneasiness. He is perfectly well, goes everywhere in town, has gained ten pounds in weight, and is bright and cheerful. He says he has no pain, sleeps seven hours a night, eats well, and has no desire for morphine or other drug. I know positively that he is not taking morphine, for he was in my office on a recent evening, and I saw and heard him sneeze four times, a thing that will never occur to one under the influence of opium. A patient will never sneeze or yawn during the time he is under the influence of opium.

"The amount of hyoscine to be given at a dose, and the intervals between doses, are matters to be adjusted in each case. Some patients require more than others. The end to be obtained is hyoscine intoxication, and then to keep it up during the period mentioned—from twenty-four to seventy-two hours—the great majority requiring forty-eight hours."

Opocerebrin in Epilepsy

Dr. J. J. T. asks our opinion regarding the value of opocerebrin in epilepsy.

But one physician, Dr. Lion, of Samara, reported favorable results from opocerebrin in epilepsy. He printed his paper in the Russian *Vratch* and in the *Berliner klinische Wochenschrift*. There are no German reports on the use of the remedy. Dr. Lion's reports were afterward flatly contradicted by the director of the hospital from which the cases were reported; he accused Dr. Lion of exaggeration, careless observation, etc. We will have to wait for further reports on the subject.

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

Materialism is Unscientific.—Despite the demonstration often made of the unscience of materialism, there occasionally appear articles in medical journals whose authors seem to delight in springing this grinning old Jack-in-the-box at medical men. We have recently noticed two, from which the following sentences are gathered:

"The scientific worker of to-day must consider life as the expression of certain chemical changes that occur in the organism. Never can he consider chemical change as the expression of the specific life residing in the cell."

"The phenomenon of reproduction has been deprived of its vitalistic nature."

"Nature does not kill and does not cure. If there were consciousness in her she would feel indifferent about what she is, viz., mere evolution. She has no predilections, and no reasoning, she is simply cause and effect."

This sort of nonsense was nauseatingly plentiful fifty and a hundred years ago, but it is growing much more rare nowadays when men are learning that science cannot be used as a club in the hands of atheism, and when astute minds are aware that before one is capable of pronouncing dogmatically upon all matters of psychology and metaphysics, it is expedient to study these departments of knowledge at least a half-hour or so. So long as spontaneous generation has not been proved, so long should the materialists keep their Jack-in-the-box well locked. It may be that materialism and atheism will finally be demonstrated as true, but so long as men have a trace of the true scientific spirit in their makeup they will not denigrate as "science" any absolutely unproved dogmatic assertion, whether theistic or atheistic. The disbelief in the bugaboo of "vitalism" is as silly scientifically as was any belief of the most reactionary oriental or medieval navel-worshiper. The scientist allows gathered facts to lead to any belief dictated by induction; he does not pounce down upon the facts with a cocksure, "never can he consider," etc. There is not a particle of proof in the world to any well-constructed, scientific mind, that "life is the expression of certain chemical changes," that "nature has no predilections and no reasonings. Such statements may be left to ranters of the Ingersoll type, but should not be uttered by medical men. How supremely foolish they are, great scientists well know."

[The above seems to us entirely too dogmatic and self-assertive. To put a disbelief in vitalism—a disbelief shared by some of the greatest scientists—on a par with oriental navel-worship is stretching things too far. It is also absolutely false that there is not a *particle* of proof in the world that life is the expression of certain chemical changes. It may not be true and probably is not true that life is the expression of chemical changes only, but that the latter play a non-subordinate part in that wonderful phenomenon called life is at once apparent, when we consider that no *life* is possible without chemical changes. Can the writer of the editorial think of life going on for five minutes without oxygen being taken in and carbon dioxide given out? The author should also know that he who denies need not prove anything. It is on him who asserts that the burden of proof rests. The reference to Ingersoll rather proves the non-familiarity of the writer with the subject of which

he speaks. Ingersoll was anything but a materialist. To him life, as well as death, was a profound and sacred mystery.—Editor MERCK'S ARCHIVES.]

Here are a few selections showing that many scientists do not regard life as the simple expression of mechanical and chemical forces:

"Mechanical arrangements play but little part in the work of organs; the results of their activity can in no way be explained on simple mechanical principles."—Michael Foster, *Encyclopædia Britannica*.

"The chemical operations performed by the living cell cannot be imitated in the laboratory, or explained by any known chemical laws."—Halliburton, *Handbook of Chemical Physiology and Pathology*.

"We are now nearly everywhere compelled to assume a specific, yet absolutely unknown activity of the living cell. We know very little about the secretion, absorption, and motility of the stomach. The study of the organ has been undertaken with too many physical propositions, whereas here, as in the digestive tract, biologic laws are more important."—Ewald, *Diseases of the Stomach*.

"There is more in life than the processes it controls."—Gowers.

"The deeper, wider, more profoundly we seek to penetrate, into life-processes, by just so much do we perceive that what we once thought to understand by physical and chemic laws is of a much more recondit nature, and especially that it mocks every mechanic explanation."—Bunge, *Lehrbuch der physiologischen und pathologischen Chemie*.

"The influence of animal or vegetable life on matter is infinitely beyond the range of any scientific inquiry hitherto entered upon. Its power of directing the motions of moving particles is infinitely different from any possible result of the fortuitous concourse of atoms."—Lord Kelvin.

"The fundamental conceptions of biology are, and from the nature of the phenomena dealt with, must be entirely different from those of physics and chemistry. To any physiologist who candidly reviews the progress of the last 50 years, it must be perfectly evident that so far from having advanced toward a physico-chemic explanation of life, we are in appearance very much farther from one than we were 50 years ago. Attempts to analyze life into a mere series of physical and chemical processes are based on a mistaken theory."—John Haldane, *Lecturer on Physiology, Oxford*.

"To our reasoning and even to our imagination, there is a great gulf fixed between the physical stimulus and its psychical consequence; they seem incommensurable quantities; the transition from light to sensation of light is certain but unthinkable."—G. N. Stewart.

"Psychic life is not the product of the bodily organism, but the bodily organism is rather a psychic creation."—Professor Wundt.

"Cells are no more the producers of vital phenomena than the shells scattered in orderly lines along the sea beach are instruments by which the gravitation force of the moon acts upon the ocean. Like these, the cells mark only where the vital tides have been, how they have acted."—Huxley.

"Life is a power superadded to matter; organization arises from, and depends on life, and is the condition of vital action; but life can never arise out of, or depend on, organization."—John Hunter.—*Amer. Med.*

The Japanese, Mosquitoes and Malaria.—That the Japanese, who have shown such a marked capacity for appreciating and advancing the latest discoveries in medical science, would be

interested in the new theories as to the relation between mosquitoes and malaria was to be expected, and it was natural that they should undertake experiments of their own in Formosa, a region where their army of occupation has suffered very severely from the ravages of the disease. The results now reported—that not a soldier in a battalion protected from malaria for 161 days showed any signs of malaria, while another battalion, living near and under the same conditions except as regards protection from the insects, developed 259 cases in the same time—are little or no more remarkable than those attained in similar experiments on the Roman Campagna, but the test was made on a larger scale, and with a disregard, partly military and partly Oriental, of consequences to the unprotected troops that could not be expected from civilian scientists in Europe. The demonstration seems to have been well-nigh conclusive, and if the official reports sustain the cabled dispatch, the need for beginning energetic campaigns against mosquitoes in every place where malaria is prevalent will be evident. Indeed, to do so is a duty rather than a need. Malaria is a most terrible disease, even in its milder forms, and the annual toll which it has exacted from humanity has been enormous. To conquer it would be to increase several times the safely habitable portion of the earth's surface, and silence completely Mr. Benjamin Kidd and the others like him who, as a part of their anti-imperialism, proclaim that white men cannot live in the tropics. As a matter of fact, they can, even now, in most parts of the tropics, if they are willing to live temperately and intelligently, and the various "graveyards of the white man" would become gardens if the protean demon malaria could be vanquished.—*New York Times*.

Scholars and Their Rewards.—In a recent article entitled "Some Noteworthy Scholars," Daniel C. Gilman, formerly president of the Johns Hopkins University, emphasizes that "the merit of a university, in the long run, depends upon the men who are called upon to conduct it." In the course of the organization and development of the university at Baltimore, Mr. Gilman came into familiar relations with many noteworthy scholars who came to the university as guests and delivered open lectures on various subjects. As he recounts in a charming manner some of the peculiarities and traits of the scholars he has known, we meet with the following splendid estimate of the services of scholars: "They and their peers, at home and abroad, are the men by whose learning, investigation and publications, society is carried forward. The world applauds the heroes of great struggles, and it does so rightly; it showers its plaudits upon the great orator; it witnesses, breathless, the achievements of surgeons; it calls our times the age of electricity; and yet it is prone to forget or overlook the hidden workers in the laboratory and the library, the quiet men who are the necessary precursors of those who are devoted to the application of knowledge. It underpays them while they are in service; it rarely thinks of providing pensions for their advancing years, or of giving stipends to their families when premature death interrupts activities; the honors it bestows are the empty privileges of placing after their names a few letters of the alphabet in order to show their academic rank. The world knows little, until they are ended, of the anxieties that harass the scholar when he thinks of his future life—I mean his future life here below; it cares nothing for his family. But these quiet men

of the desk and the den, of the pen and the book, of the balance and the lens, are they who have kept alive the traditions of literature and extended the bounds of science." It is interesting to note that Mr. Gilman is very careful to emphasize in this manner the investigative side of medicine and to contrast it with the more spectacular. And the truth of his remarks cannot be questioned by any one at all familiar with the situation. The rewards open to real investigators and scholars in the various fields of medicine in this country are indeed so insignificant as yet that undoubtedly many young men of splendid gifts for such work are forced into purely practical lines. As head of the recent Carnegie Institution in Washington, Mr. Gilman has a good chance to put into actual practice his ideas about pensions for investigators and stipends for their families.—*Jour. A. M. A.*

The Incarnation of Man.—People of a materialistic frame of mind, to whom man is but a machine, physiology but a higher kind of chemistry, and psychology but the physiology of nervous tissue—a subject subtle only because the tissue is unstable—are apt to put on one side all that cannot be weighed and measured as not only inexplicable, or, as some would say, unthinkable, but as quite beyond the range of reasonable discussion. It is a simple conception of the universe, and to many it appears to be satisfying. Let us, however, recommend such materialists, when they want a change of scene, to attend a meeting of the Society for Psychical Research. There they will find people, quite as convinced as they are of their own sanity, and quite as content as they can possibly be with the correctness of their own interpretation of things, asserting the most astounding propositions, without turning a hair. To those who are so self-centered as to think that there is something cranky about all who do not see as they do, it is a wholesome awakening to find good, solid, comfortable and respectable people believing in telepathy as a thing indisputable, and holding that man, as we see him engaged in his various more or less ignoble pursuits, in the city and elsewhere, is but the incarnation of one little bit of himself as he exists in an intangible and ethereal form. At the last meeting of the Psychical Research Society, Dr. Oliver Lodge, F.R.S., said that he did not hold that the whole of any one of us was incarnated in their terrestrial bodies; certainly not in childhood; more, but perhaps not so very much more, in adult life. What was manifested was only a definite portion of a much larger whole. What the rest was doing during the years spent here he did not know. Perhaps it was asleep, but probably, he said, it was not entirely asleep with men of genius, nor perhaps was it all completely inactive with people called mediums. Now to the modern materialist all this is absolute "rot." Yet Dr. Lodge is not exactly a man to pooh-pooh. Indeed, may not the immaterialists retort that this is a Christian country and that our very religion teaches us not to weigh and measure too exactly? Again, Roentgen, Tesla, and Marconi have of late been giving many shocks to old ideas. At any rate, this is clear, that we must not too rigidly put outside the bounds of sanity belief in the unthinkable. It is a queer world, and which half of it is sane appears still undecided.—*London Hospital*.

Extravagant Claims.—The subject of extravagant claims, or rather of unjust friendship toward a remedy, is one we have more than once mentioned in print. The attempt to make a cure-all of any one drug, in our opinion, injures the

opportunities of the drug and injures also the sick who might otherwise be benefited. This gauntlet of extravagant claims, or of mistaken claims, is one that every new remedy must run, and just here many good remedies fall down. This thing of making a cure-all of a drug is opposed to our views concerning specific medication, unless it be that in removing a *cause*, a line of disease expressions disappears, as may often be the case. But let this pass; the subject is the wrong that is done by an illogical attempt to broaden the field of a remedy that in a direct line in its proper place is of great value.

In this direction two thoughts are uppermost, and may be expressed as follows:

1. To claim for a remedy that to which it is not entitled leads physicians to try it in this negative field, be disappointed and then desert it. It leads to distress of the afflicted, who, but for this blunder, would probably have received the remedy they should first have obtained. In either case a wrong is done the remedy, the physician who prescribes it, and the patient expecting benefit.

2. To mistake by exaggeration concerning the field of influence of a remedy injures the reputation of the physician who writes the paper. Those employing it to their disappointment view with distrust subsequent statements from the same source. To hold one's pen close to a line in which he is sure of his position, to make statements to the point, and make them clearly, is to credit one's self, benefit the profession, serve the patient, and in the end add to the curative remedies of our school, thus benefiting humanity and science.

Our experience is that conservatism is less to be feared than ill governed enthusiasm in behalf of a remedy. Even as we write comes a report from a physician on a new drug in which three years ago we counseled caution, a drug that has been used with circumspection by several talented and careful observers for some time, and which unquestionably will take its place among the remedial agents of the future. And yet the danger to be feared is over-praise, which first distracts, next disturbs, and finally discredits.—J. U. Lloyd in *Eclectic Med. Jour.*

Popular Medicine.—In spite of the extreme specialization of function rendered necessary by our highly complex social system, it is nevertheless a fact that people insist more and more on settling for themselves questions requiring highly technical knowledge. We have long been accustomed to the man in the street giving his opinion on politics, religion, art and literature with an amount of assurance only equalled by his ignorance of the subject commented upon, but it is only of recent years that he has also assumed a dogmatic attitude towards science. Perhaps some of our lay contemporaries are not altogether irresponsible for this, for as a rule the new and marvelous remedies for consumption, the latest ideas on vaccination, and the up-to-date method of capturing the supposed cancer germ, which some confiding friend whispers to us at the dinner table, have been derived from some form of printed matter whose title is generally forgotten. Nevertheless the doctor who happens to forget the name of the special species of mosquito which carries the malarial germ is not regarded with much respect by the young lady who has just read up the subject in a magazine article. It is not only in what we may call the academic side of medicine, but also in the practical treatment of disease that the public is assuming a new attitude. It is true the doctor is still consulted, but he is no longer regarded with a certain amount of awe as one who

has acquired some marvelous skill and knowledge not vouchsafed to ordinary mortals. Indeed, the patient usually has not only clearly made up his mind concerning the nature of his malady, but is far more apt to consider the physician wrong, if he disagrees, than to alter his own diagnosis. Further, a great number of people refuse to take medicine unless they know what are the remedies or even the nature of the ingredients which are prescribed, although it is impossible to realize what information is conveyed to any but an expert chemist by such a statement, for example, as that lyceol is di-methyl-piperazine-tartrate.

If anything goes wrong or the patient does not recover in the number of days or hours which he has settled for himself his illness will last, then it will not be difficult to guess who will be blamed. Fortunately, however, when there is real danger, things assume quite another aspect, for fear always drives out the confidence of ignorant people. There is a great deal of quiet humor in it all, and often it is an interesting source of speculation as to what is in the mind of a person for example who seriously tells one that the mucous membrane of his esophagus has lost tone. One wonders also what the peritoneum is supposed to be by those of the public who talk so glibly of peritonitis, or how a strong will power is presumed to act to prevent influenza. Speaking of the latter disease, the latest popular idea seems to be that the infection can only be removed from the patient by a course of tonics, but it is not explained how this will act. A young probationer, in answering a question on antiseptics in an examination paper, stated that they acted best when wet, because then the wings of the germs were rendered so heavy that they "could not fly away." One wonders whether the man in the street also pictures the tubercle bacillus as a very diminutive form of house-fly, when he is telling one of the latest methods, supposed to be practised at Brompton Hospital, of "sluicing" the lungs several times a day with a new antiseptic which is not poison to the human being. What also is the popular idea of a lung? Such a treatment is, however, not nearly so marvelous as the operation of taking out the eye, washing it, and putting it back again, which is supposed to be performed every day by our ophthalmic surgeons.—*London Hospital.*

The Danger from Surgery.—The perils of only the most trivial injuries in surgery are well emphasized by the recent death of Dr. Middleton of Davenport, Iowa, and the critical condition of the surgeon who assisted him in the operation. In neither case was the wound which caused the septicemia more than barely noticeable. Even the least abrasion may be fatal with specially virulent infections and one can never be sure that he is not in the presence of such in an operation. In this instance the condition of the operator's system can hardly be credited with much influence as a factor. Both operators became infected and the rapidly fatal progress in one and the threatening condition in the other indicate that it was the special nature of the poison that was alone effective. Surgeons run so many chances without injury that they are liable to forget that in some particular case they may meet with a virus that is overwhelming in its virulence. Even the utmost precautions may not always be a safeguard; it is not known that they were neglected in this case. It is a reminder, such as we have from time to time, that our profession has its special perils from which all our enlarged acquaintance with germs and their toxins can not always save us.—*Jour. A. M. A.*

Correspondence

AND

BRIEF CLINICAL REPORTS

Hydrogen Peroxide Contra-indicated in Pneumonia

Editor MERCK'S ARCHIVES:

In the April number of your valued journal, page 149, appears an abstract of an article from the *Southern Practitioner* on the use of "Hydrogen Peroxide in Pneumonia," by M. Beshoar, M.D. I am wholly unacquainted with Dr. Beshoar, and desire to extend him every professional courtesy in this reply, and it is far from my desire to accuse him of mistaken diagnoses in his pneumonic cases wherein he has given H_2O_2 . I wish to report my own observations of one year upon the H_2O_2 treatment as instituted by a physician in this State, in the treatment of pneumonia. Primarily, I would say that my observations have been compared with those of several other physicians, and we came to the same conclusions.

Firstly. The cases in which it (H_2O_2) has been used have proved to be less than 15 per cent. pneumonic cases, the rest having been cases of mistaken diagnosis, inasmuch as other physicians of experience and efficient diagnosticians called in have found—in place of pneumonia—bronchitis, myalgia, intercostal neuralgia, pleurisy, measles, uricacidemia, or other troubles far removed from a pneumonic condition.

Secondly. In cases of true pneumonia, the treatment by H_2O_2 has proved a fatal error.

Thirdly. Physiologically and rationally such treatment is not tenable.

My reasons for so stating are as follows: It is, I believe, the consensus of opinion that in a pneumonic state, bleeding early, in plethoric cases at least, is physiologically indicated, for relieving the congested lung, limiting the process, and relieving a distended, laboring heart. This contention is further supported by nature's attempted restorative effort in relaxed or dilated arterioles.

If such be the case, H_2O_2 and water pushed as I know it to be by some physicians every five to thirty minutes continuously, simply throws so much more labor upon the heart and circulatory apparatus. The atom O released in the stomach possibly is absorbed easily, but observation of H_2O_2 on external surfaces, and as observed in use in gastric affections, would lead one to think otherwise. On the skin surface it is an irritant, producing roughening and removing superficial cells. On the more delicate mucous surface of the gastro-intestinal tract its action certainly could be expected to be more severe. Its action as an antiseptic doubtless lies in its union with the cell albumen, producing a negative food base for bacterial growth. That it is a failure as an antiseptic as compared with carbolic acid, bichloride, and others, is perceptible to anyone who, finding use for it, notes that the next dressing will show as much or nearly as much pus as the previous dressing. Such result may be due to the lack of penetration from insoluble compounds produced by immediate surface contact.

It is but natural, then, to believe that little of the pure oxygen is brought in direct contact with the absorbing surface of the gastro-intestinal tract. It is doubtful, also, if the absorbing surfaces would accept the oxygen atom free. Should such be the case, however, why it should have a selective point for oxidation of tissue is to me past comprehension. Surely the prescriber cannot think that its action is as an oxygen aid, as when absorbed through the lungs. [The author of the paper distinctly states that he believes that a part

of the peroxide is absorbed and taken into the circulation as such, serving partly as an oxidizer of the venous blood and partly as a bactericide. There is nothing impossible in this statement.—Ed.] There is a compensatory emphysematous condition present in pneumonia, a natural condition, and unless too much solidification exists, sufficient oxygen is utilized; it is only as a bactericide that I have heard H_2O_2 extolled.

In cases in which it has been given, it has universally provoked gastro-enteric irritation, vomiting, gastralgia in many cases, and much distress. In one case of true lobar pneumonia in which I was called, it had been given faithfully every half hour for seventy-two hours. Pulmonary edema closed the scene. I know of similar results in many other cases.

Oxygen inhalations in pneumonia have not proved successful, either, and surely the oxygen from the H_2O_2 could not be more directly carried to the diseased spot.

It is interesting in connection with the internal administration of H_2O_2 , to refer to the article on hydrogen dioxide in "Squibb's Ephemeris," for January, 1902, wherein is quoted Dr. Miller's attribution of a death from the administration of H_2O_2 . R. T. Morris, M.D., of New York, is also mentioned as giving substantiating reports. The limitations of H_2O_2 are not yet found, but of its supposed nontoxicity, let us not be too sure.

Eagle, Colo.

M. H. SMITH, M.D.

Stypticin in Menorrhagia and Metrorrhagia

Editor MERCK'S ARCHIVES:

For more than a year past I have had occasion frequently to use stypticin in cases of menorrhagia and metrorrhagia, and always with the most gratifying results, in doses of even $\frac{1}{4}$ to $\frac{1}{3}$ grn. every two or three hours. In one case only has it disappointed me, where I pushed it almost to its utmost limits, when finally the hemorrhage ceased after tamponing the vagina two or three times daily for several days, until now, for about a week, patient has had no return of the hemorrhage. Whether due to the enlarged dose of stypticin (up to 1 grn. every two or three hours) or to the tamponing, aided by fluid extract of ergot, I cannot tell. I have experienced no unpleasant effects from the continued use of the drug in $\frac{1}{2}$ to 1-grn. doses every two or three hours, for a week or more, except a slight but persistent nausea, a feeling of heaviness and constriction in the stomach, which has continued, in a lesser degree for a week after withdrawal.

L. GOLDSCHMIEDT, M.D.

Ensenada, Baja Cal., Mexico.

Variation of Temperature in Children

Editor MERCK'S ARCHIVES:

The following case illustrating the remarkable variation of temperature in children and the slight importance which even a high temperature sometimes has, will probably be of interest to the readers of the ARCHIVES. I was called to see a six-year-old who was unconscious and seemed to be threatened with convulsions. His rectal temperature was near 105° . He was a natural glutton and inquiry elicited the fact that that day he stuffed himself to excess, with bologna, cabbage, peanuts, etc. I administered an emetic, which brought forth a pailful of stuff, and after that gave him a large enema. Cold water was applied to the head. In half an hour his temperature was 100° F. When I called three hours later he was eating a slice of bread and butter, and his temperature was practically normal.

W. R., M.D.

New York.

Book Reviews

GENITO-URINARY DISEASES AND SYPHILIS. By Henry H. Morton, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital; Genito-Urinary Surgeon to the Long Island College and Kings County Hospitals, and the Polhemus Memorial Clinic. It is well known that the department of genito-urinary surgery has made great advances during the past ten years. The treatment of gonorrhea has been put on a rational basis, the importance of seminal vesiculitis as an etiological factor in the production of sexual neurasthenia has been recognized, the cystoscope has obtained a firm foothold as an instrument of diagnosis, etc. In the volume before us the author has endeavored to present clearly and concisely the present status of genito-urinary diseases and syphilis. Though there is no lack of more exhaustive treatises on the subject, and of quite recent date, still this volume has a useful place of its own to fill, and will be especially serviceable to students, because everything is treated concisely without unnecessary verbosity. The illustrations are very good. The printing, etc., leaves nothing to be desired. (F. S. Davis Company, Philadelphia. Pages, 372. Illustrated with half-tones and full-page color plates. Price, cloth, \$3 net.)

CONTRIBUTIONS TO PRACTICAL MEDICINE. By Sir James Sawyer, Senior Consulting Physician to the Queen's Hospital, etc. This small volume of about 200 pages represents a collection of clinical lectures, essays, and other short articles which the author published in various medical journals in the course of years. They are all on practical subjects, as will be seen from the titles: The causes of insomnia; the cure of insomnia; the cure of gastralgia; the cure of habitual constipation; the treatment of the severer forms of constipation; clinical observations on intestinal obstruction; the cause and cure of a form of backache; unguentum Ranunculii Ficiariae in the treatment of hemorrhoids; the treatment of eczema; the treatment of chorea; chloride of calcium in pulmonary tuberculosis; inhalations in asthma; ether as a menstruum in medication by the skin, etc. The book contains many useful points, and is well printed and bound. (Cornish Brothers, Birmingham, England.)

THE DIAGNOSIS OF SURGICAL DISEASES. By Prof. E. Albert, of the University of Vienna. Authorized translation from the eighth enlarged and revised edition, by Robert T. Frank, A.M., M.D. As the translator justly remarks in his preface, in marked contrast to the numerous works on medical diagnosis, works on surgical diagnosis in the English language are comparatively few. Prof. Albert's work is well known in Europe and we believe the translator and the publishers have performed a useful service in making it accessible to the profession in America. The book is eminently practical; instead of adhering strictly to theoretical classifications, diseases are grouped according to similarity of symptoms and points of general resemblance—just the factors which render their differentiation in actual practice difficult. In this way the advantages of clinical teaching are most closely approached, and the presentation of a large number of cases still further increases the value of this arrangement. The volume consists of thirty-nine chapters and contains fifty-three illustrations. The translation is faultless. The mechanical execution of the work is in Appleton's excellent style. (D. Apple-

ton & Co., New York. Pages, 419. Cloth. Price, \$5.)

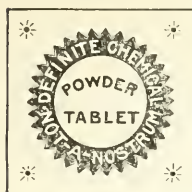
DAVENPORT'S DISEASES OF WOMEN. A Manual of Gynecology for the Use of Students and General Practitioners. By F. H. Davenport, A.B., M.D., Assistant Professor in Gynecology, Harvard Medical School. This volume—the fourth edition, revised and enlarged—forms a satisfactory text-book on the subject of diseases of women. It will probably appeal more to students than it will to physicians, but even the latter may find it useful as a review. In treatment only such methods are outlined as the author has found of the greatest value in his own practice. To minor points, which are frequently omitted even in large treatises, particular attention has been paid. The printing, illustrations, and binding are excellent and the price is very reasonable. (Lea Brothers & Co., Philadelphia and New York. 402 pages, with 154 illustrations. Cloth. Price, \$1.75 net.)

THE MEDICAL TREATMENT OF GALL-STONES. By J. H. Keay, M.A., M.D. Physicians who have themselves been long sufferers with some painful disease, generally ever after harbor a deep personal interest in that disease, and not infrequently make a special study of it. The two reasons that the author says have induced him to write on the subject of gall-stones—a subject which has been well covered by others—are: *First*, a long and painful personal experience in this disease, which, together with a careful and painstaking study of many who have similarly suffered, has forced him to conclusions not in accordance with those of Mayo, Robson, Kehr, and other writers; *second*, the achievements of the gall-stone surgeons have been so brilliant, so much has been written on the surgical aspect of the subject, that some seem to forget that this is a disease specially amenable to medical treatment. The author gives a full exposition of the latter, and tries to prove the superiority of the medical treatment of gall-stones over the surgical. The book is interestingly written and is well worth reading. (P. Blakiston's Son & Co., Philadelphia. Cloth, 126 pages. Price, \$1.25 net.)

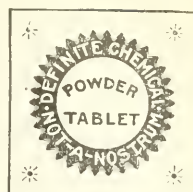
MANUEL D'ELECTRO-THERAPIE ET D'ELECTRODIAGNOSTIC. Par le Dr. E. A. Albert-Weil. This forms a concise and systematic treatise on the uses of electricity as a diagnostic agent and as a therapeutic means. While not as large as many of the other treatises on the subject in various languages, it is in our opinion sufficient for the ordinary needs of the general practitioner. The illustrations are rather primitive. (Félix Alcan, Editeur, Paris. Cloth, 330 pages. Price, 4 francs.)

Pamphlets Received

- The Relation of the Medical Editor to Original Communications. By Harold N. Moyer, M.D. Reprint from the "Annals of Gynecology and Pediatrics," vol. xiv.
- Simple and Ethereal Sulphates. G. W. McCaskey, A.M., M.D. Reprint from "The Journal of the American Medical Association."
- Observations on Seven Years' Use of Creosote in Pneumonia. By I. L. Van Zandt. Reprint from "The Southern Practitioner."
- Physiology the Basis of Clinical Medicine: A Plea for Scientific Methods. By G. W. McCaskey, A.M., M.D.
- Perineal Prostatectomy. By Parker Syme, M.D. Reprint from "The Journal of the American Medical Association."
- Early Diagnosis in Carcinoma. By Charles A. Powers, M.D. Reprint from "The Journal of the American Medical Association."



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tient's gaze;
Which consists of battered numbers of three-
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And some illustrated papers full of long-past bat-
tle scenes?
Have you seen those hoary relics of the anti-
quated past,
Which with "trophies" and "mementos" could be
very fitly classed?
If you haven't, make a journey up to that abode
of gloom
Which is known to fame and patients as the doc-
tor's waiting-room.

There they lie, upon the table, and you look them
o'er and o'er,
Searching vainly for some story that you haven't
read before.
For the chairs are full of people, and you've sim-
ply time to burn,
Ere a welcome voice announces that at last has
come your turn.
There's a *Puck* of last year's vintage and a *Life*
of '98,
And a *Munsey's* and a *Scribner's* of a yet more
antique date,
And a *Harper's* illustrating Admiral Montojo's
doom—
All are in that weird collection in the doctor's
waiting-room.

Through the pile you run your fingers, for you've
nothing else to do,
And at last down near the bottom you discover
something new!
Eagerly you pounce upon it, till disgustedly you
see
That it's some prosaic treatise on applied pathol-
ogy,
And if chance some other new one shall reward
your wild pursuit,
You'll discover it's a record of the "Bilious In-
stitute."
You can dig there for an hour, but whatever you
exhume
Will be just the same old rubbish in the doctor's
waiting-room.

In a barber shop symposium of literature you'll
get
At least a this month's *Standard* or a late *Police*
Gazette;
And, although you'll find their contents are per-
haps a little bold,
They will have the signal merit of not being ten
years old.
In a bootblack stand the moments you'll be helped
to while away
With an illustrated paper of the mint of yester-
day.
But like faint and shadowy faces from the past's
unyielding tomb
Are the newest publications in the doctor's wait-
ing-room.

Where they get them—what collector of remote
antiquities
Piled upon those shaky tables such fantastic
shades as these—

Is a question never answered, for the doctors do
not know

How they gathered those remembrances of days
of long ago.

But it seems to be quite certain that they'd stock
a few small shelves

With recent works if they were forced to read
those things themselves.

But they're not, and so their patients must their
weary minds illumine

With the faded, frenzied fiction in the doctor's
waiting-room.

—J. J. Montague, in *Portland Oregonian*.

EXECUTE THEMSELVES.—God's laws throughout
all nature execute themselves without the aid of
courts or officials. Cause and effect can not be
separated. Broken law and penalty are as fixed
on one side as is reward for the intelligent per-
ception of and obedience to law on the other.

The man who knows the law and abides by it
is the man who succeeds and prospers as far as
his knowledge and practice go. Simple goodness
can not take the place of intelligence and appli-
cation in the scheme of Nature. Else we would
have no progress. Enlightenment follows suffer-
ing; assimilation, accumulation, acquisition,
development are the inevitable results of striving
along correct lines, just as muscle is built up and
strengthened by just the right exercise.

To place men's feet in the right path, and pre-
vent their straying too far, Nature has inexorable
penalties and rewards, with laws as sign-posts
and warnings all along the way.

Many people make the mistake of confusing re-
ligion, which concerns the spirit alone, with Na-
ture's stern morality. The Church, either through
ignorance or lust of power, has done her best to
foster this mistake. There is no forgiveness of
sins, *i. e.*, broken laws, in Nature. Every penalty
must be paid to the last farthing, else chaos would
result. A man may sincerely repent; he may feel
his spirit washed clean by the agony of mind
through which he passes. Nature's claims are
still to be settled. There is no way to evade them.

People say: "So and so is a good man, honest,
kind-hearted, industrious; I do not understand
why he does not get along better." It is because
he does not comply with Nature's laws. A man
may work steadily, and not accomplish very
much; his work may lack superior quality and
finish; he may be a poor financier. If a man
earns four dollars a day and spends six, he will
always be behind, and in debt, whereas if he earns
six and saves two, in time he becomes a capitalist.

If a man neglects his business, whether it be to
engage in charitable work, or to enjoy himself,
his business will not flourish. If he abuses his
digestive powers habitually by over-eating, he
weakens them, and finally disease seizes him,
whether he is a philanthropist or a sporting man.
No amount of goodness can stop the action of a
law. The hand put into the fire will surely burn,
whether hand of saint or sinner. Nature is no
respector of persons.

On the other hand Nature has her rewards,
coming also through the fulfilment of law. The
man who cultivates any faculty or power receives
pleasure, acquires skill, or is in some way ben-
efited or aided. If he cultivates his spiritual na-
ture, he has a joy and a peace which those who
live on a purely material plane do not share. If
he cultivates his artistic nature, beauty becomes
a passion with him, the gratification of which is
attended by a rare pleasure. The man with large
affections enjoys making others happy.

(Continued on p. xiv)

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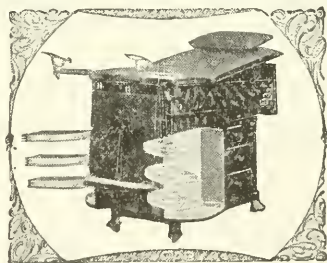


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(Continued from p. xii)

Anything which teaches that men can subvert the laws of Nature, can avoid her penalties, or get out of paying her price for achievement of any kind, whether it be the spirit of chivalry or religion or socialism or what not, is demoralizing and hurtful. Man eagerly seizes and cherishes any belief which promises a royal road to any goal, but so sure as he tries to walk it, bitter will be the experience which disabuses his mind of such a false conception of life, and he is liable to turn upon the teaching which gave him wrong ideas with cynical repudiation.

Chivalry has hurt more than helped women by essaying to take their feet from the earth, and so retarding their progress.

Knowledge of Nature's laws, the inseparable workings of cause and effect, how they bring about penalty and reward, these are of first importance, fundamental because they sustain life, and make for progress. Religion, chivalry, altruism, are the flowers which yield fragrance and beauty but wither as soon as put to rough uses.—*Med Brief.*

TOAST TO THE UNDER DOG.—

I know that the world, the great big world,
From the peasant up to the king,
Has a different tale from the tale I tell,
And a different song to sing.

But for me—and I care not a single fig
If they say I am wrong or right—
I shall always go in for the weaker dog,
For the under dog in the fight.

I know that the world, the great big world,
Will never a moment stop
To see which dog may be in fault,
But will shout for the dog on top.

But for me, I shall never pause to ask
Which dog may be in the right,
For my heart will beat, while it beats at all,
For the under dog in the fight.

Perchance what I've said were better not said,
Or 'twere better I'd said it incog.;
But with heart and with glass filled chock to the
brim,
Here's luck to the under dog.

—Dr. G. Frank Lydston.

EXTREME MEASURES FOR CONSUMPTIVES.—When the late Chief Justice Doe of the New Hampshire Supreme Court removed the windows of his house in winter to be sure of fresh air, a sympathetic shiver ran through the neighbors. Again, when it was first published to the world that invalids, suffering from tuberculosis, often awoke in the morning at the State institution at Rutland, Mass., to find their beds covered with the snow which had drifted in under the lifted sashes, many readers of the descriptive article froze in imagination.

Recently a sanatorium has been established among the hills of Plymouth County, Mass., for the cure of consumption and other affections of the lungs, which goes a step farther. There numerous patients have passed their days and nights in little dwellings which have only three side walls for shelter, the fourth wall in each instance having been left out of the plans of the architect purposely.

It is said to be the intention of the management to build a fence around two acres of land into which individuals will be turned naked. The

claim is that the results will be as direct and fully as convincing as those received from the present outdoor treatment.

The sanatorium occupies one of the old colonial estates of Plymouth County, with spacious grounds, about a dozen acres in extent, sloping gradually toward the south.

Near the ancient mansion are erected small buildings which may well be termed shacks. They are simply lean-to's, with the sides open, facing the south. They are of one and two stories in height, and constitute the resting places for the patients day and night. In summer or winter, in rain or sunshine, persons inhabit these dwellings and seem to thrive on the heroic treatment.

The shacks are about twelve feet square, and are fitted up after the manner of a common room. An iron bedstead, a bureau, stand, wardrobe, papers and books are to be found in each apartment, and the patient is surrounded by the ordinary arrangements of a hospital ward, but all out of doors.

A screen is suspended in front of each building, but, unless it rains, it is not pulled down. It is not intended to keep out the air. Every method possible to keep the air moving is utilized. There are windows in the wall sides of the little rooms, blind work over them, so that the air can be constantly changed if it should rain, and at the rear are carefully and ingeniously constructed lattices.

Another feature of these unique and novel dwellings is the complete isolation of the patients. One man in each twelve-foot room is the rule. The bed clothes are frequently moist with dew, but no bad results are felt. It simply means the drying of the bed clothes, and every quilt is placed in the rays of the sun as quickly as possible after the patient arises.

The old colonial mansion is where many of the patients are kept, and this is fitted up not unlike the leading sanatoria in this country and Germany. Every room has a southern exposure, but it differs from many institutions of this character, inasmuch as there is every facility for an open-air treatment and still be under a roof. Windows are thrown wide open and screened, little openings are cut in the roof to permit the free distribution of air, and as a matter of course the place is scrupulously clean, with not a carpet in the whole house.

The sanitary arrangements are as near perfection as possible, and when the old home was converted into a sanatorium the first change that the head physician ordered was the removal of the small windows in the cellar, and the replacing by larger ones. Air circulates as freely in the cellar as in the most open room in the house.

In addition to the apartments in the mansion, there are little wards constructed near at hand, and in close touch with the sanatorium, for female patients. The same rules govern their daily life as in the open-air wards. Their treatment is nearly the same, and the physical culture lessons are given under the care of an expert. Hammocks are hung about the grounds, and, wrapped in warm clothing, some even with mittens and hats, the patients swing as if it were a summer day.

This open-air treatment may seem to many to be carried to excess, but when it is stated that the patients thrive on it, when they seem to enjoy it, and enter into the pleasures of life with a zest unknown for years, it certainly seems to possess a virtue hitherto not fully understood. They say that they rise from their beds feeling excellent, their appetite improved, and from the first night until they leave the sanatorium they do not have that tired feeling in the early morning hours.

The time that the patient is allowed to arise differs according to his or her condition. This is governed by the medical staff, which follows every case with the greatest of care, and notes every change that occurs.

Stepping from the bathroom to the dressing-room, the patient is carefully attired and is soon out of doors. There is no dreading of drafts, and if it is chilly the patient does not mind it.

The blue-glass craze of a few years ago will be recalled. It served its purpose, as it drew the attention of the people to the beneficial effects of the sun's rays. Solar heat is recognized as a great remedial agent, and at this institution it plays a prominent part. A large, open space has been arranged at the top of the sanatorium leading from the upper tier of rooms, and is surrounded with a lattice work and strips of canvas. Cot beds are placed and patients are required to lie there for a certain length of time each day, with no clothing. As they turn on the cot and receive the rays direct from the sun every part of the body is reached, and from the sun bath it is but a step to the water bathroom.

The result of the sun bath is said to be felt directly by the patient. The cuticle of the whole body is as tanned and browned as the neck and arms of a summer yachtsman in Buzzard's Bay after a month's cruise. It is surprising what cold air the patient can stand after a treatment of this nature, and he seems immune from the effects of drafts or a chilly atmosphere.

The food generally conforms to the ordinary rules of dietetics. It is of a mixed character, containing representatives of the different classes of food stuff. It is digestible, appetizing and varied. Then, it is to a certain extent suited to the natural individual taste and customs of the patient, and is directed by the results of experience, both of the patient and of the physician. A large amount of nitrogenous food is used, milk, butter, cream and eggs being lavishly supplied.

"We give them all they want," remarked the leading physician to the writer. "It is one of the rules that patients shall have everything within reason. It is part of the treatment. We find that the appetite calls for certain things, and we supply them as we do in health, if the food seems to agree with the patient. We have a large vegetable garden that we use freely throughout the entire year.

"Medicine? There is very little used in our treatment, and the reason is readily understood. If we take a patient here and he or she receives benefit from the treatment it is apt to be attributed to the medicine rather than to the hygienic and open-air methods which we use, and they are not apt to follow those principles laid down here when they return to their homes."

The hours for meals at this institution are as follows: Breakfast at 7.30 in the summer and 8 in the winter; dinner at 12.45 and supper at 6. In addition there are three lunches served, one at 10.30 a.m. and another at 4 p.m., while the last comes just before retiring. Milk, eggs or some specially prepared food is used at the lunch hours.

There are rules adopted by the management of this institution which are rigidly enforced, and infractions are not tolerated. Between the hours of 1.30 and 4 in the afternoon a special quiet is required in the house. The patients are required to be ready for physical culture lessons and their other regular duties. The patients are required to be in their rooms at 8.15, and at 9 the lights are out. Another rule is that the patients are not

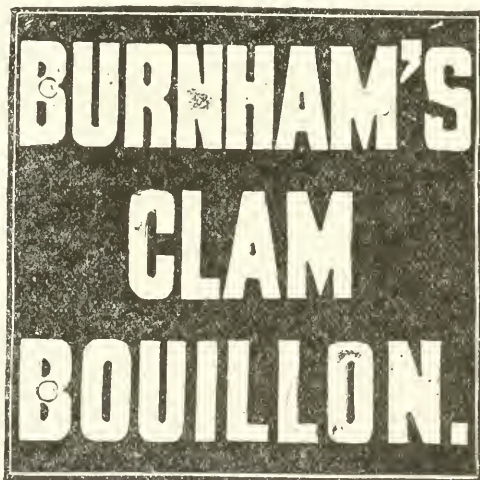
(Continued on p. xvi)

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(Continued from p. xv)

allowed to visit each other in their bedrooms or enter the executive or private rooms. Patients are requested to keep their rooms in order and have few articles and ornaments to avoid the collection of dust. Permission is necessary to go farther than the village or to take an extended walk.

The rule against *expectoration* is more rigidly enforced than on the elevated in Boston. Sputa cups are supplied, and every possible safeguard is used. Under no circumstances are handkerchiefs or other articles of clothing permitted to receive sputa, and spitting upon the grounds of the sanatorium is absolutely forbidden.

In the past year many cases have been received at the sanatorium, and the treatment, it is asserted, has been beneficial in every instance. Of course damaged lung tissue can never be replaced, but the sanatorium is not designed for patients who are past cure. It is for the incipient cases of tuberculosis and lung trouble, which can be treated in such a manner as to put new vigor in the patient and send him home with a renewed interest in life.

"It is now nearly two years," said the physician in charge, "since I was called to see a young man whose family history was most remarkable. His father, brother and grandfather and two aunts died with chronic plithisis. He was suffering from a cough and dyspnea and had a temperature of 100.5 degrees. The ordinary remedies were applied, and he continued to lose flesh. I took him to two specialists in Boston, and they said that my patient undoubtedly had tuberculosis.

"At that time I read a brochure by a Boston physician and he spoke of the benefits derived when he compelled his patients to remain out late in the evening in reclining chairs. I then urged my patient to sleep out of doors. For nine months he slept in the open air, with the exception of the stormy nights, and it was surprising to see the change. At the end of a month his temperature was normal. In four months he had gained twenty-two pounds, and the only medicine I gave was a little tincture of nux vomica. He has been perfectly well since and tips the scales at 147. The man has worked in a shoe factory nine hours per day since his treatment commenced.

"I might cite case after case similar to the one mentioned, cases where the open-air treatment has returned direct results. As a matter of experiment I have slept in a roof garden, and until one has tried it he cannot know how much more refreshed one feels after a night's rest out of doors.

"The cabalistic words 'dampness' and 'drafts' are of the past and should not be considered for a moment. Many times patients have found their bed clothing and night clothes damp with the dew, and a summer rain has disturbed their restful slumbers, but with no harm, beyond the necessity of drying their clothes before another bedtime. I am of the opinion that if people could be taught to fear impure air and overheated rooms as they now dread a slight increase of moisture or a little air stirring in the room, tuberculosis would become as infrequent as smallpox.—*Boston Globe*.

SAY SOMETHING MEAN (?)—To the above our advice is, *don't*. Do not make your life miserable by beginning to think and say mean things about others. As the twig is bent so the tree inclines. Like strengthens like. These are not empty words; these old axioms are not random thoughts. The man who says a mean thing steps

into a place where a second mean thought comes naturally; then follows another mean thing said, and next a meaner thought. Friends who care for the brightness of life, who have faith in humanity, who have charity for humanity's failings, soon come to shun the speaker of mean things. They realize that if he speaks meanly to them about others, he is apt to do the same of them when speaking to others. They meet him with "glittering generalities"; they learn to give him no confidences. They pity him in his selfishness, and ultimately he feels the touch of distrust, and blames others for his own actions; then he thinks still meaner things, and the first chance he gets, speaks them, or even writes them. He tries to get even with those friends he has affronted, and because of their distrust in himself, strengthens his reputation for meanness. He is now sarcastic, ironical, hateful. Little failings in others he magnifies; great ones in others he overlooks or belittles. The meanness in his own heart appears in words concerning others. His friends are hollow; opportunities to do good no longer present themselves. The end of it all is personal failure, and the effect of it all is that the mean things said about others turn to plague himself.

"Say something mean?" No. If there be nothing pleasant in your heart, turn not your thoughts into words. If there be nothing but bitterness, sourness, meanness in your disposition, treasure this unpleasantness yourself; humanity does not want it; humanity will not take it in the sense you give it out; for while you may direct your tongue against another, only the bitterness within your heart will be seen by others.—*Eclectic Med. Jour.*

HER MOTHER'S LEGACY.—A few nights ago I entered a cheap restaurant—never mind "why," there is no need for the general public knowing that wielders of the mighty pen do not always dine in dress suits at Delmonico's. Who should I see in an obscure corner but my friend Britts. I attended his wedding about two months ago and knew he had started housekeeping with a charming little wife.

Why was he dining alone in the darkest corner of an obscure restaurant?

I hastened to him, gave him a hearty slap on the shoulder and exclaimed, "What's up, Britts, is your wife dead or your money gone?" He started guiltily, looked cautiously around and murmured: "Sh-h, are you alone?" "Heavens," I thought, "has he committed murder!" but I said aloud, "yes, I am alone and I hardly think any of our friends are liable to drop in here. Can I lend you a nickel?"

At this remark Britts' face changed and he went into a hysterical fit of laughter, then his face grew serious again, and I noticed he looked wan and pale. Finally he leaned across the table and said, "you know I am married to the dearest little woman in the world." "It isn't her he's killed then," I concluded, "must be his mother-in-law." He continued, "and she has learned to cook."

Here he paused tragically. I didn't exactly see what was tragic about that statement, unless they had conspired together and cooked the aforesaid mother-in-law, but I allowed him to proceed without interruption. "Her mother is dead and my wife inherited her cook-book," said he. "All the recipes written down by her own dear hand; now she never could write legibly, and the cook-book looks as though it was written in a long forgotten Egyptian cypher. Say, Will, you never had a mother-in-law who left a cook-book, did you? I went home from the office every night with my

(Continued on p. xviii)

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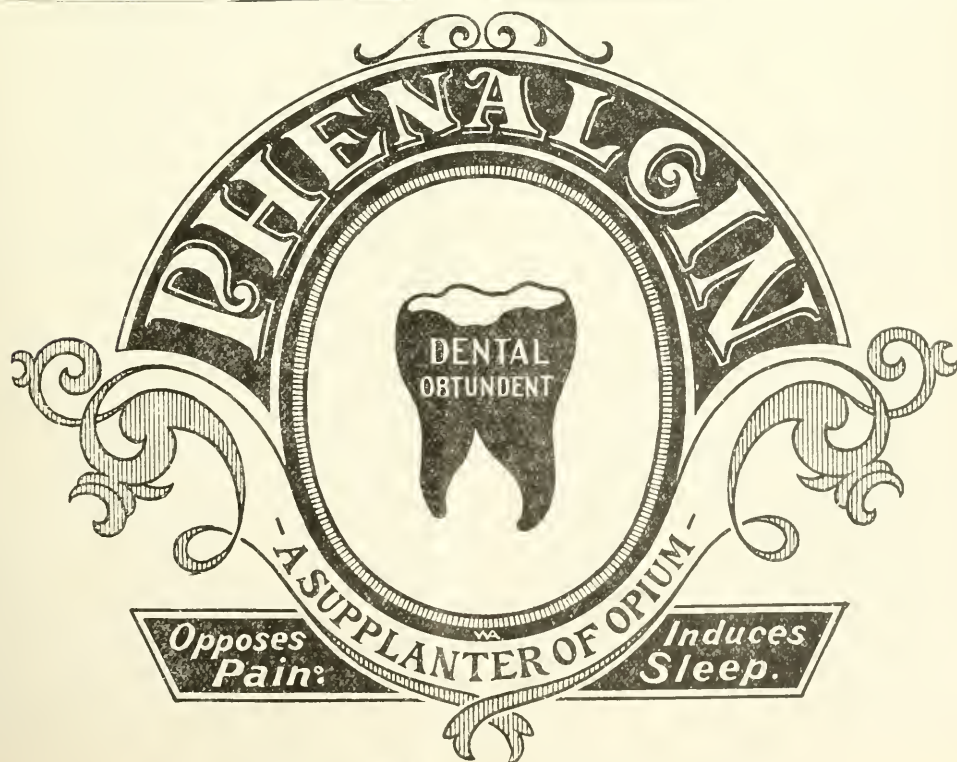
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(Continued from p. xvi)

heart filled with visions of my little wife and my mouth full of appetite. There sat the sweet girl looking as dainty as a bird at the head of a table covered with cut glass and real silver, and I have often wished that I could eat that glass and silver instead of the food. There she sits, and say, Will—this is just between us—there she sits and sweetly serves out the most atrocious messes that ever man tasted, and as each dish appears she warbles out, 'no one but dear mamma had the recipe for this.'

"Godfrey! Say! I have learned that 'dear papa' died young, and that my wife is the only surviving member of a family of six children.

"For weeks I have been fed on these abominations, till I grew thin and my clothes didn't fit, but that only made things worse. Wife said, 'you don't look very well, but you'll soon be all right, for in mamma's cook-book is a special page devoted to the needs of invalids.'

"My hopes rose somewhat until I had one dose from that 'special page.' I nearly died; had a doctor and hired a nurse. That nurse was a blessing in disguise; she ate one meal in our house and then announced that she always insisted upon doing the cooking for her patients. I stayed in bed a week after I felt perfectly well, and simply reveled in those meals.

"While I lay there I did some mighty thinking, and this is what I determined to do. I have my breakfast home, tell Nellie that I never take anything but coffee for breakfast—she doesn't make that after any of mother's recipes. I swallow that; then I come down here and get my real breakfast. Early in the afternoon I come here and get a square meal; thus fortified I go home looking as hungry as possible, and I rather flatter myself that I have cultivated a hungry appearance. I apparently thoroughly enjoy what little I manage to eat.

"My wife complains that she never saw a man with such a bird-like appetite, but I explain to her that the latest medical works trace all diseases to over-eating; that I can attribute my last illness to that cause, and that I really cannot make up my mind to give way to my appetite and leave her a widow just yet.

"Now you know the story of my life. Some day I am going to bolster up my courage with Scotch whiskey, go home and burn that cook-book; but so far I have not had the heart to do so. There's my car, good-bye, old man, keep my secret and come up and dine with us sometime when your appetite is poor."—Eunice H. Reichert in *Ex*.

A WOMAN'S HANDS.—Certainly there is nothing about a woman that so quickly indicates her character as the appearance of her hands, and the way in which she uses them. To be entirely graceful, of course, every woman ought to be able to forget that she has hands, or at least to impress observers in that way; but to the average woman these necessary additions to her physique are a source of constant misery. When women walk they must have a package, a card-case, parasol, or something that will give occupation to the hand, and the result is, as a rule, they are not easy in their movements. To walk with absolute comfort, the hands should swing naturally at the sides and so do their share of making up the proper pose of the body, but custom makes cowards of us all, and so we carry our hands about as if they themselves were burdens instead of instruments for supporting outside weight.

A certain amount of attention is necessary, as a matter of course; cleanliness occupies its nor-

mal position in regard to the hands and nails as it does when applied to the entire body, but when the proximity of mother earth is not even dreamed of, when the wishes for half moons are in evidence and obtrusive, and "shepmothers" are carefully cut away, it is well to stop right there and not attempt to make ornaments of things that Nature intended for use. The sight of over-jewelled and over-manicured extremities that wander helplessly about in mid-air is not an inspiring one to the observant looker-on. Nature is never ungraceful; she knows her own needs, and if, instead of trying to make them pose on all occasions, the hands were given full liberty to follow their own impulses, we should soon have a new feature among womankind, a new grace that is well worth cultivating.—*ELT*.

MENTAL SCIENCE.—"The eye and the ear have long been regarded as marvels of mechanism, quite the most wonderful things in the world. But compared with the implements of a present day laboratory, the sensitiveness of all human organs seems gross enough. A photographic plate, coupled with a telescope, will reveal the presence of millions of stars whose light does not affect the retina in the least. The microscope, too, with its revelations of the world of the infinitely small, tells us how crude, after all, is this most delicate of the senses. Indeed, we may liken it to a piano where only a single octave, toward the middle, sounds. From the ultra violet to the lowest reaches of the spectrum is a range of some nine octaves of light vibrations, of which, save for our new mechanical senses, we should never have been conscious of but one.

"The ear hears little of what is going on around us. By means of a microphone, the tread of a fly sounds like the tramp of cavalry. Our heat sense is very vague; we need a variation of at least one-fifth of a degree on a thermometer to realize any difference in temperature. Professor Langley's little bolometer will note the difference of a millionth of a degree. It is two hundred thousand times as sensitive as our skin. A galvanometer will flex its finger at the current generated simply by deforming a drop of mercury, or pressing it out from a sphere to the shape of an egg. The amount of work done by a wink of the eye would equal a hundred billion of the units marked on the scale of a very delicate instrument. It is at least ten thousand times as sensitive as the eye or the ear. But even this astonishing performance is far surpassed by the exquisitely sensitive coherers, discovered by Professor Branly of Paris, by which the Hertz waves of wireless telegraphy are caught in their pulsings through space.

"The range of impressions which we get from lifting an object in the hands seems rather small. An ordinary chemist's balance is about twenty million times as sensitive. It will weigh down to the two-hundredth part of a milligram.

"Wherever we turn, we shall find instruments which surpass each and all of our senses in a most humiliating way. Without them, we should know very little of the world about us. Lacking them, Sir Isaac Newton knew very little of the world about him. But with them—and this is a capital point—we have come to know a great deal. We have come, for one thing, to see that our senses give us reports only of a comparatively small number of comparatively gross stimuli. Here is a small set of propositions to which I fancy there can, in the light of present knowledge, be very little dissent:

"First—Sensation, thought, or consciousness cannot be demonstrated except as it is associated

with the physical substance of the brain and the nerves.

"Second—This nerve substance is the sole path of the mind—it is the mind, and an exterior stimulus can only reach us through the known organs of sense.

"Third—While, on the one hand, we know a great number of stimuli which do not affect any of the organs of sense, but do affect various instruments, there are no stimuli known which affect the sense of organs which cannot be made to affect some instrument in a far greater degree. It is only by means of these instruments that we arrive at any precision and certainty.

"Fourth—If spirits, thought waves, silent healings, or any other of the so-called psychic manifestations can influence human beings, they can also influence delicate machines.

"Fifth—In the absence of such proofs, 'mental science' and all its like are slightly incongruous terms. They are not sciences; they are but dreams."—Carl Snyder in *Harper's Magazine*.

AN INTERESTING EXPERIENCE.—This day of my somewhat unique experience was in February, 1885, in Northern Iowa, U. S. A. The day was dark with an invisible snow of a genuine Western blizzard accompanied by a stinging cold known only to the northern countries. Such a combination of atmospheric conditions must be experienced to be appreciated. The writer had hitherto lived in a more southern latitude and consequently had never learned to fear the weather on the score of coldness. There was much snow on the ground of a previous precipitate of the "beautiful" which had congealed into a crust sufficiently strong to bear up a horse, therefore the sleighing was excellent. The present snowing did not seem to accumulate upon the surface of the previous snowfall, but to fly like powdered glass in a horizontal direction. The wind blew at a terrific rate, which, together with the forty or more degrees below zero, fanned away the normal temperature of the living animal organism with alarming rapidity.

This fearful hibernal day found me with an urgent call of professional duty to the bedside of a very sick young mother twelve miles away. I was young and very properly enthused with the dignity and sacredness of my chosen profession, and then such an imperative call to administer to suffering humanity meant "to do or die," so, as will be seen, I did both. Commercialism was not part of my stock in trade, but my mind was rather dominated with the spirit of the good Samaritan, which is not often the case with those older and wiser in the profession.

I started on my journey of duty and death about eight o'clock in the morning. I had been to attend this patient in the early part of the night before and had returned home before the thermometer began to fall, though there were unmistakable indications of the oncoming storm. My faithful but lazy old horse knew the way as well as myself and in such a storm much better, so I let him choose his course over the hard snow, my part being only to apply the whip when the animal was inclined to resume his favorite slow walk. When about two and a half miles from my office, I began to experience a drowsy sensation which merged into a feeling of reverie akin to dreaming. I had none of the local pains of cold. My feet and hands were sufficiently protected to keep them as warm as the rest of my body, but, as I found out afterward, I was suffering a general lowering of temperature. Thereupon I lost all consciousness, and the case of the worthy young mother ceased to trouble my mind. Then, of

course, too, I failed to apply the usual stimulant to my easy-going equine, which doubtless lapsed into his enjoyable snail's pace.

Just before my entire loss of consciousness, I found my mustache and that part of my whiskers not covered by my muffler congealed in a mass of ice formed from breath-moisture, but it gave me no discomfort. I was happy. One sees strange things at such a time. I was freezing to death, but, spare your sympathy, for like death from other causes, so far as known, it was painless, aye, even delightful. To me there was a general good feeling; I dreamed rapidly over the days gone by, of my boyish hopes and fears, delights and sorrows; of the bare-foot school-girl for whom my heart first felt a passion. Then a poetic sentiment dominated my fast-dying mind, and the impressive scenes and sentiments of Alice Cary's beautiful little poem "Pictures of Memory," which I had memorized in my early youth, came like realities rapidly to my remaining consciousness. No death could have been more infatuating, and it still delights my memory.

I dreamed, and then I ceased even to dream. I knew nothing and went to no place beyond this mundane sphere. Utter consciousness ceased about eight-thirty that morning and continued up to about eleven o'clock that same forenoon. When my brain resumed its functions I found myself lying upon the floor of the kitchen of my patient's humble farm home, surrounded by the other inmates, who, with anxious looks were still rubbing me with snow and dosing me with hot and stimulating drinks. To these good people I owe both my death and life.

They had not expected me to start out in such a storm and therefore were not looking out for my coming. At about half-past ten they heard a rubbing sound upon the front door, and not being able to look through the thickly frosted windows to ascertain the cause, the door was opened, when there was seen the Doctor's old horse "Steve" looking for better care at the hands of humans. Then they noticed that the Doctor was motionless and crouched over in his cutter, saying not "good-morning" nor any other verbal indication of being alive. They immediately realized what had happened to me and took me in their strong arms and laid me down close by a glowing cook-stove, while not a moment was lost starting the process of raising my temperature to the normal.

When first taken into the house no pulse at the wrist could be found, no heart-beat heard, nor any breath detected by holding a cold mirror before the face. Doubtless I was "as dead as Julius Cæsar" or any other lesser personage whose body had ceased to functionate for the same length of time as had mine. Now, the point is, I *went nowhere*. To my individuality it was just as it was before I was born or before I was conceived. I was not. But I did not notice it, and neither will any one in my professional opinion. Nirvana was mine; the Seventh Heaven of Oblivion, and it was well. There were no troublous dreams to mar this sweet forgetfulness; no pain; no anything in fact. . . . To be facetious, I say, since that day of my cold reception into what most people still regard as the "unknown," as soon as I came to know of the methods and delightful fancies of that old cult modernly dubbed "Christian Science," I have specially favored "absent treatment" as of signal use to the tired doctor lying in his warm bed while without the night is growing colder and colder, and the blasts of the blizzard sound more blasting upon the midnight dreary, with a suffering patient twelve miles away.—G. A. Norton in *Med. Times*.



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Guesswork in Medicine

AMONG the many charges that the quasi-reformers delight in heaping on the head of Medicine, the favorite one is that medicine is not a bit of a science, but pure haphazard guesswork. As a proof of this they offer the fact that if a patient goes to two or more physicians and presents or feigns to each one the same symptoms, the prescriptions given by the several physicians will rarely or never be the same. A case came to our notice where a strenuous female reformer visited six physicians in one day, told them—so she claims—in identical words the trouble from which she was supposedly suffering, and got five prescriptions, of which not two were alike, while one of the six physicians prescribed no drugs at all, advising only hydrotherapy and massage. Under the circumstances the female reformer considered herself perfectly justified in denouncing medicine as a humbug and the merest guesswork. She was sure that the physicians simply guessed and prescribed whatever came into their heads; this was the reason no two prescriptions were alike. If medicine were a real science, the same drugs would always be prescribed in the same condition. This not being the case, it follows that all the drugs are worse than useless, etc.

The following reply rather knocked the bottom out of all the reformer's argumentativeness. If a hungry man went into six different restaurants and ordered something

to eat—anything that would satisfy his hunger, without specifications—would the waiters in each restaurant bring him exactly the same thing? Isn't it more than likely that the dishes would all be different, and would that prove that all the dishes were worthless for the purpose of appeasing one's hunger? Of course not. We have an analogous condition in the case of the different prescriptions. It simply shows that we have many drugs useful for the same condition. Supposing the physicians think that the patient needs a diuretic; one may prescribe sparteine, another theobromine, another squill and buchu, or potassium citrate, spirit of nitrous ether, etc.—different remedies to produce the same or a similar result. But even if the remedies be of an entirely different character, belonging to different classes of medicines, that does not show that the treatment is not right. Supposing a patient suffered from a moderate degree of auto-intoxication. All agreeing that the emunctories must be stimulated, one physician may consider it proper to call upon the kidneys for more energetic work and prescribe a diuretic; a second physician may prefer to stimulate the alimentary canal and prescribe laxatives or cathartics; a third one may think it best to call into action that most important gland, the liver, and prescribe cholagogues; a fourth one may decide to cause the elimination of the toxins through the millions of skin-pores and pre-

scribe a diaphoretic; a fifth one may very wisely think it best to combine all the remedies in small quantities, and thus work at once on all the emunctories; a sixth one may not prescribe any drugs at all, but may prefer to obtain same results—more slowly, but just as surely—through massage, hydrotherapy, gymnastics, walking, horseback riding, etc. Many different remedies, many different methods, but all equally efficient means towards the same end. The non-informed layman gets bewildered, of course, on seeing such a multitude of different methods used for the same disease, but far

from showing "guesswork," it shows how rich and varied our resources are in some diseases.

It is silly and puerile to claim—as is done in some quarters—that medicine is at present an exact science. No, it is not. We are in the dark as to a good many points, and we have much, very, very much, yet to learn. But there is one thing that we should like the quacks, the quasi-reformers, and all other detractors of medicine to remember: *There is a vast difference between not knowing everything and knowing nothing!*

Expert Medical Testimony

WE all admit with grief and sorrow that the medical profession, in this country, does not enjoy the respect and confidence that it should. There is no effect without cause, and one of the most potent factors in contributing towards the contempt in which the profession is held by some is the so-called expert testimony. One shudders at the thought of the possibility of a man perjuring himself where a human life is concerned, but what else can the public think when it sees two experts swearing and testifying to diametrically opposite conditions or different causes of death. The inference is either that neither of them knows a thing, or that one at least is a perjurer; and, very unfortunately, the impression is getting general that you can hire an "expert" to testify to anything you want him to. It is a shame and a pity that some professional "experts" should cast discredit on the entire medical profession, and something ought to be done and done at once to abolish this disgraceful state of affairs. That the legal profession is also getting fully aware of the farce of expert medical testimony will be seen from an address by Judge Woodworth, of the Appellate Division of the Supreme Court, who at the last annual dinner of the Society of Medical Jurisprudence, lashed those "experts" unmercifully. Among other things he had the following to say:

"Any witness who takes the stand and testifies on a subject not clear to the lay

mind and does not tell the whole truth and the exact truth is a perjurer before God, just as much as a man who swears he saw an accident when he was ten miles away. A man who for a fee testifies in the interest of the particular side on which he is retained is no longer worthy to be received in decent society.

"When expert witnesses of the medical profession give testimony to things not scientifically true, their brothers of the profession know that before high Heaven they have testified falsely, and if such men were treated as outcasts that kind of swearing would be a matter of the past.

"A retainer to a lawyer that carries with it the opinion of an expert witness is a corrupt retainer. When judges see certain experts repeatedly appearing in cases with the same lawyer it is difficult to tell how much weight their testimony should be given. Men of high character who give the courts the result of years of investigation and experience are entitled to all respect, but men who may be retained on either side for a fee are of all people the most to be despised."

What is the remedy? To wait for each individual to become strictly honest is chimerical. There will probably always be people ready enough to swear to what is not true for a consideration. The remedy is to take away every inducement to swear falsely, and to accomplish this an independent commission, consisting of men of the highest character, should be appointed by the state. The truth would then be told, and according to the best light. There would or could be no inducement to prevaricate.

[Contributed to MERCK'S ARCHIVES]

NATURE AND TREATMENT OF SCIATICA¹

By Augustus A. Eshner, M.D.

Professor of Clinical Medicine in the Philadelphia Polyclinic, Physician to the Philadelphia Hospital, Assistant Physician to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, etc.

THE designation sciatica is applied to painful affections in the distribution of the sciatic nerve of varied origin. The nerve is the continuation of the lower part of the sacral plexus, which is formed by the lumbosacral cord—constituted of the union of the anterior division of the fifth lumbar nerve and a branch from the fourth—and anterior divisions of the three upper sacral nerves, and part of the corresponding division of the fourth. It passes out of the pelvis through the great sacro-sciatic foramen and descends between the greater trochanter of the femur and the tuberosity of the ischium along the posterior aspect of the thigh to about its lower third, where it divides into the internal and external popliteal, although the division may take place at any higher level. The internal popliteal continues down the posterior aspect of the thigh and across the popliteal space, proceeding down the leg as the posterior tibial and dividing between the internal malleolus and the heel into the internal and external plantar. The external popliteal passes along the outer part of the popliteal space and divides in the upper portion of the leg into the anterior tibial and the musculo-cutaneous. The sciatic is a mixed nerve, its branches giving off both motor and sensory fibers.

Whether a distinction can properly be made between neuralgia and neuritis must for the present remain an open question. We are as yet unable to give a better definition of the inflammatory process than is comprised in a recital of its manifestations; but in general it may be said that it represents the reaction between the tissues invaded and one or more of a large number of irritants. It may thus vary greatly in intensity. The exciting agents may be physical, such as traumatism or extreme heat or cold; or chemical, such as alcohol, lead, arsenic, mercury, introduced from without; or the products of metabolic derangements or of blood-degeneration, such as diabetes, uremia, anemia; or of infectious diseases, such as rheumatism, syphilis, influenza, typhoid fever, etc. Now it seems to me, with respect to the peripheral nerves, that we may have any degree of reaction to these various irritants, resulting at the one extreme in neuralgia, and at the other in neuritis.

Nerve degeneration, I take it, represents only a condition in which the irritation is so intense that reaction cannot take place. That, in the case of neuralgia, sensory nerves especially suffer may be due to the fact that they respond more readily to the exciting factors. As a matter of fact, however, trophic disturbances are by no means rare in the train of neuralgia of long standing, and under such circumstances the muscles may likewise be involved. The localization of neuralgia must be attributed to the influence of contributory or exciting causes of local operation. Thus, in the case of sciatica, there may be, in addition to other factors, exposure to cold and wet, falls, blows, pressure within or without the pelvis, adjacent disease.

The pain of sciatica is usually sharp and radiating in paroxysms, and dull or absent in the intervals. It is generally worse at night, in damp weather, and as a result of activity and concussion. In order to secure relief from the pain the patient will, in standing or in walking, incline the body toward the unaffected side, or in consequence of muscular spasm toward the affected side, giving rise to a characteristic lumbar scoliosis, which, finally, may alternate in direction. Except in the presence of neuritis, the entire nerve or a large part of it is not the seat of tenderness, which is rather confined to points where the nerve crosses hard, bony surfaces or is exposed to the action of muscles. The most common of these is at the sciatic notch, where the nerve makes its exit from the pelvis. Another is near the posterior superior iliac spine; a third below the lower border of the gluteus maximus muscle, between the trochanter and the tuberosity of the ischium; a fourth in the popliteal space; a fifth below the head of the fibula. Others may be found behind the external malleolus and on the dorsum of the foot. Intrapelvic tenderness may be detected by digital examination through the rectum. In other respects sensibility is generally unaffected, although paresthesia may be present and occasionally small areas of anesthesia. The knee-jerks are likely to be increased, probably as a result of reinforcement through the pain. The muscles may exhibit slight weakness and fibrillary tremor, and after a time some degree of wasting. Neuritis may cause degenerative electric reactions. At times an eruption of herpes occurs in the course of the nerve. As a rule, the sciatic nerve on one side only is affected, unless from intrapelvic pressure or diabetes.

The treatment of sciatica must necessarily vary in accordance with the causative

¹ Read before the Northern Medical Association.

agencies, and so far as possible all exciting and contributing factors should be removed. Rest and a favorable position of the part are valuable adjuncts. When the affection sets in acutely eliminants are indicated. A mercurial (*massa hydrargyri* or *hydrargyri chloridum* mite, gr. v) followed by a saline will be useful. Sweating may be induced by means of drugs (*pilocarpine hydrochlorate*, gr. $\frac{1}{12}$ to gr. $\frac{1}{6}$) or of heat. Local bleeding may be practiced by means of leeches or of wet cups, or a number of dry cups may be applied. Hot compresses often afford relief under such conditions, while refrigeration by means of sprays of volatile substances (ether, ethylene chloride, rhigolene) or of applications of ice may effect the same purpose. Counter-irritation with turpentine, mustard, iodine, cantharides or the actual cautery may often be practiced with advantage. Relief may sometimes be afforded by the deep injection of various substances in the neighborhood of the nerve, such as simple water, ether, chloroform, silver nitrate or osmic acid in solution. Electricity—galvanism, the static current or faradism—at times yields admirable results. Massage also may contribute to the maintenance of the nutrition of the part. Hydrotherapy likewise is a useful measure and it may be advantageously employed in the form of alternate hot and cold douches under pressure, following exposure to dry heat. A similar purpose may be fulfilled by a course of treatment at thermal baths. The application of a flannel bandage with a moderate degree of firmness from the toes to the hip, together with a fixation splint, may afford relief after other measures have failed.

Among drugs the salicylates hold a prominent place. They should be given in generous doses (gr. x to gr. xxx, from three to six times daily) for not too long a period. With them various coal-tar derivatives may be advantageously combined. The most commonly employed of these are phenacetin, acetanilid, and antipyrine (gr. iij to gr. x). In the acute paroxysm nothing affords the same immediate relief as a hypodermic injection of morphine (gr. $\frac{1}{4}$ to gr. $\frac{1}{2}$) alone or in combination with atropine (gr. $\frac{1}{200}$). Cocaine (gr. $\frac{1}{4}$ to gr. $\frac{1}{2}$) may be employed in the same way. By this means the attack is sometimes dispelled as by magic, and there may be no recurrence for a long time. Aconitine cryst. (gr. $\frac{1}{200}$) may be given by the mouth or subcutaneously, and aconite applied topically in the form of liniment or ointment. Among constitutional remedies iodine, iron, arsenic, strychnine, quinine, and cod-liver-oil may be mentioned. Of course, the diet should be simple, unirri-

tating, digestible, and nutritious, and the hygienic conditions made favorable. Especially should fecal accumulation and straining at stool be avoided. Other measures failing, the nerve may be exposed and subjected to stretching. This can be effected in slight degree also by flexing the thigh on the abdomen when the leg is kept extended on the thigh.

[Translated and condensed for MERCK'S ARCHIVES]

BALDNESS: ITS CAUSES AND TREATMENT

By S. Jessner, M.D.

FOR the purpose of a detailed discussion, five varieties of alopecia may be distinguished:

(1) Alopecia adnata, senilis, and prematura. (2) Alopecia seborrhoica. (3) Alopecia areata. (4) Alopecia mycotica. (5) Alopecia symptomatica.

No practical interest attaches to *alopecia adnata*, or congenital baldness, which is fortunately a rare defect. The child is born with hair, but, as is well known, this first hair soon falls off and gives place to the permanent hair-growth. It happens occasionally that the latter fails to make its appearance and the child remains bald. More frequently the fetal hair-growth is missing and the child is born hairless. It may remain permanently bald, or the delayed hair may make its appearance later in life.

Contrasting with this form of baldness is the *senile alopecia*, which must be considered as an almost physiological process. It is characterized by total absence of any pathological alterations of the scalp. This form of baldness is never complete, only the upper portions of the head being affected, the lateral parts as well as the rest of the body, retaining their hair. In fact, a general tendency even to excessive hair-growth may be noticeable in old age, leading to bushy eye-brows, to hairy moles, etc. The age at which senile baldness sets in varies widely according to individual conditions. It may not show itself until three-score years and ten have passed and we often see it in "young" people of twenty or so. Constitution, heredity, and mode of life are the responsible factors. We must be careful, however, with the diagnosis of "premature baldness," since frequently a thorough search will reveal an underlying disorder, which is generally seborrhea. This trouble is doubtless the commonest cause of the falling out of the hair.

Seborrhea, so often encountered in skin-diseases, seems to be an affection of an inflammatory nature. On the head it occurs

either as a chronic, diffuse process, or, much more rarely, it may run an acute or subacute course and leave circumscribed bald areas behind. Seborrhea, or hypersecretion of skin-grease, may appear on the scalp as dry or oily seborrhea. The oily or fatty form may lead directly to alopecia, but usually it is only a precursor of the dry variety, seborrhea sicca, which is nothing else than common "dandruff." A close inspection of these cases reveals small, white scales, covering the scalp and easily detachable. After removing the superficial layer of scales, we find in the early stages of the disorder a normal skin. The subjective symptoms are insignificant, being limited to slight itching or a sense of tension. This condition may last for years before it leads to baldness.

The question now presents itself: How are we to detect the beginning of alopecia; that is, the first signs of a disproportion between hair-fall and hair-renovation? Pohl-Pincus, a well-known hair-specialist, gives the following directions: Falling of the hair is preceded by diminished growth of the hair in length. The latter fact may be ascertained in women, in case they do not burn the ends of the hair, by examining every day the hair coming away in combing. If the number of removed hairs which are less than six inches long constitutes more than one-fourth part of all the hair coming away with the comb, it is a sign that a pathological process is taking place in the scalp. In men the method is simpler: we only have to look for the uncut hair in the daily waste, and if they are numerous, the hair is "falling," since normally the newly-growing hairs remain on the head up to the time of "shearing."

Having by these means ascertained the decrease in the growth of hair in length, we can safely predict the coming hair-fall. The method is valuable, as it allows us to begin our therapeutic efforts in time to check the stealthy approach of baldness, which otherwise is sure to supervene sooner or later.

A different kind of seborrhea is the *acute, circumscribed variety*, which also leads to alopecia. Here we have to deal with a form of eczema. The affected scalp-areas are covered with a thick, grayish layer of fatty substance, which, on being removed, leaves an inflamed surface behind. In a few months or even weeks the hair-follicles are destroyed and patches of baldness are the result. Sometimes a new growth of hair takes place. This affection is comparatively rare and usually develops out of an old, chronic seborrhea sicca, being thus a localized exacerbation of the diffuse pathological process.

The scalp is not the exclusive seat of seborrhea. The eyebrows, eyelids and occasionally the beard and moustache are affected with the disorder. As a rule, the process runs an acuter course in these locations. The symptoms show a distinct inflammatory character, and the hair-fall is completed in a few months. Seborrhea of the eyelids is a common trouble in children.

As to the etiology of alopecia seborrhoica, we must plead ignorance in many directions. The cardinal problem has reference to the presumably microbic origin of the disease. Several clinical peculiarities seem to speak in favor of such an etiology: seborrhea often attacks many members of a family and appears to be contagious from person to person. However, no micro-organism has so far been conclusively demonstrated as the cause of seborrhea. And even granting the question, which is as yet only begged, there is a wide field left to various predisposing factors.

It is well established by observation that constitutional disorders have a distinct influence in the production of alopecia. Digestive disturbances, constipation, faulty diet, general debility, etc., undoubtedly underlie many a case of seborrhea. The custom of cutting the hair has been accused of causing alopecia in men. The opinion is not well founded. More reasonable is the belief that the warm head-apparel of men is responsible to a degree for the greater frequency of alopecia in the male sex. But in general, we must go back to the naturally more vigorous hair-producing powers of the scalp in women.

We come to the diagnosis of alopecia seborrhoica. The chronic form is characterized by the seborrhea, the protracted course, the localization. The method of examining fallen hair mentioned above is a valuable means of early diagnosis. In subacute seborrhoic alopecia there is some danger of confounding it with tinea tonsurans or alopecia areata.

The prognosis of chronic seborrhoic alopecia is not so hopeless if proper treatment is instituted in time. Once allowed to advance until the scalp is a smooth, shiny, atrophic surface, a restitution is naturally improbable, since it would require the creation of new hair-follicles. But if the patient comes to us before all the hair is gone, we may promise him the preservation of the remaining growth. He must be willing, however, to carry out directions patiently and conscientiously. Acute and subacute cases give a more favorable outlook, perhaps owing to the patient's prompt application for help.

The treatment of alopecia seborrhoica begins with the prophylaxis. A mode of life conforming to hygienic and dietetic regulations, free from overstrain, sexual excess, abuse of alcohol, etc., is the worst enemy of alopecia. The scalp must be kept clean by using soap and water, comb and brush. Rough handling of the hair in combing is injurious. Exposure to cold is to be avoided for some time after washing the head. Too frequent shampooing is not to be recommended, especially for dry, brittle hair. Once or twice a week a washing of the head is, however, requisite in beginning seborrhea, and will often constitute the sole treatment. Instead of ordinary soap, green soap may be employed, or, still better, the Sapo Kalinus of the German Pharmacopœia. The author prescribes the following:

Saponis Kalinis.....150 Gm.
Tincturæ Benzoini..... 2 Gm.
Alcohol, to make.....200 Gm.

A piece of flannel is soaked in this lotion and rubbed into the scalp. A thorough washing with water, as hot as can be borne, then follows. Cold water may likewise be used, and also exerts a favorable influence over the circulation. Lukewarm water has a relaxing effect and is therefore injurious. A cold affusion after a hot shampoo stimulates the circulation of the scalp.

[Sapo Kalinus of the German Pharmacopœia is made as follows: 20 parts of linseed oil are warmed up on a water bath, in a capacious tin or porcelain vessel, and mixed with 27 parts of a 15-per-cent. solution of caustic potash, to which has been added 2 parts of alcohol. The heating is continued until complete saponification has taken place.—EDITOR.]

The cleansing effects will be greater still if an interval of several hours is allowed to elapse between the application of the lotion and the shampoo. A sensitive, inflamed scalp naturally requires greater caution, lest a troublesome eczema be the result of too much zeal. In such cases, a mild superfatted soap is the best cleansing agent, or the crusts may be softened with oil before the washing. The following are suitable ointments for cases in which an eczema has supervened; here the treatment of the seborrhea must be interrupted until the inflammatory symptoms have subsided:

Ichthyol.....8 min.
Zinc Oxide.
Starch, of each.....40 grn.
Petrolatum, to make..... 5 dr.

Or:

Salicylic Acid.....8 grn.
Zinc Oxide.....1¼ dr.
Tincture Benzoin.....8 min
Petrolatum, to make.....5 dr.

Or an ointment of white precipitate may be used. Carron oil is also efficient.

An old remedy for seborrhea of the scalp is a 2- to 5-per-cent. solution of sodium bicarbonate, well rubbed into the skin daily. It is little used at present.

It should be borne in mind that in the beginning of treatment with shampooing, numerous hairs will be removed, often to the patient's great fright. He should be warned of this beforehand, and given to understand that only diseased hair is thus removed, which would have soon come away of its own accord. Washing the head once or twice a week fulfils the chief indication of removing the excessive production of fat on the scalp. Should the hair become too dry and brittle after shampooing, it may be treated with any pure oil, taking care not to use an excess of the lubricant. Sometimes the dryness of the hair is the result of too much zeal in shampooing, and the remedy is here evident. In many cases the hair will be lubricated by the use of ointments after washing, and the oil is then superfluous.

The second indication of treatment is to combat the insidious inflammatory condition of the scalp and to check the excessive seborrhoic action of the glands. If consistent shampooing is insufficient for these purposes, recourse must be had to antiseborrhoic remedies: sulphur, resorcin, ichthyol, salicylic acid, tannin, chloral. Here are some combinations:

Washed Sulphur.....¼ to 1 dr.
Resorcin.....8 grn. to 40 grn.
Vaselin, to make.....2 oz.

Washed Sulphur.....¼ to 1 dr.
Ichthyol.....24 to 40 min.
Simple Ointment, to make.....2 oz.

The ointment must be rubbed into the scalp by an attendant. The hair should be separated so as to expose half-inch areas of the scalp, and to these patches the ointment is applied with a stiff brush. This is best done at bedtime, and the head covered with a night-cap afterwards.

Less reliable, though more agreeable to the patient, are hair lotions, of which the following are examples:

Resorcin.....½ to 1 dr.
Salicylic Acid.....½ to 1 dr.
Tannic Acid.....1½ to 2½ dr
Spirit Camphor..... 5 dr.
Castor Oil.....1½ to 2 dr.
Cologne Water, to make 7 oz.

Resorcin.....45 to 90 grn.
Chloral Hydrate.
Tannic Acid, of each.....1½ to 2½ dr
Tincture Benzoin.....16 to 32 min.
Castor Oil.....1¼ to 2½ dr.
Alcohol, to make..... 7 oz.

Some patients are very intolerant of re-

sorcin, and react with inflammatory symptoms. Occasionally a tarry preparation is valuable in seborrhea of the scalp, and the following is a good formula:

| | |
|------------------------|-------------|
| Liquor Carbonis Deter- | |
| gens..... | I to 2½ dr. |
| Salicylic Acid..... | ½ to 1 dr. |
| Castor Oil..... | I to 2 dr. |
| Tinct. Benzoin..... | ½ dr. |
| Cologne Water..... | 1½ oz. |
| Alcohol, to make..... | 7 oz. |

One of the newest preparations is captol, a condensation product of tannin and chloral; it has been found efficient by some, but is very expensive.

As to the use of solid, medicated soaps, the author limits them to the after-treatment, when the seborrhea is almost entirely cured. A sulphur-soap may then be used in shampooing the head with hot water, once or twice weekly.

All these measures are directed towards checking the falling out of the hair. Once the baldness has become conspicuous, the procedures detailed above will not bring about a restitution of the lost hair. Such restitution is, however, possible as long as the bald patches are not atrophied and are covered with lanugo. In these cases local irritants must be employed to stimulate hair-growth. Massage, friction with rough towels, hot shampooing, and the faradic brush applied daily are all valuable prophylactic measures. Of medicinal agents, chrysarobin is advisable, and its use will be discussed in connection with alopecia areata; less efficient is tincture of cantharides in 10- to 20-per-cent. combinations, as lotion or ointment.

To recapitulate: the treatment of seborrheal alopecia consists in thorough washings of the head with soap and hot water, supplemented in severer cases with the application of antiseborrheal ointments or lotions. Advanced alopecia is treated similarly to alopecia areata.

The secret of success lies in patient and persistent treatment. No cure must be expected in the course of a few weeks' time. Months will elapse before treatment can be abandoned, and even afterwards shampooing at regular intervals will be necessary if the seborrhea is to be held in check.

The third variety of baldness is, in our classification, *alopecia areata*. This form is characterized by sudden appearance, acute course, circumscribed location, and the absence of all irritative phenomena. The patient notices to his surprise and dismay that a small bald patch has appeared on his scalp. The form of the patches is usually round; their confluence leading to irregular areas of baldness. In severe cases the entire scalp

becomes bald, even the lanugo being absent. Other portions of the body may likewise lose their hair, and in very severe cases not a single hair can be found on the whole body. The further course is either towards spontaneous cure, the hair reappearing and reaching the original growth, or the loss is permanent and irretrievable. The disease is infrequent, and has a predilection for young individuals, under thirty years of age. Most authorities consider the disease to be of microbic origin, and this view is certainly justifiable when we remember that alopecia areata is frequently contagious, spreading from person to person and attacking members of the same family, inmates of institutions, etc.

The treatment of this peculiar affection is not hopeless, and is based on the local application of antiparasitic and irritant remedies. The treatment is best inaugurated by removing all the loose remaining hair. This is followed by a thorough cleansing with soap and water. The most efficient medicinal remedy is chrysarobin in 1- to 5- to 10-per-cent. ointment, rubbed with a brush into the bald areas and their surroundings. Care must be taken to protect the eyes by wearing a close-fitting cap over night. If conjunctivitis appears in spite of this, the head must be thoroughly cleansed of the remaining chrysarobin, and the subsidence of the trouble accelerated by means of cold eye-washes. Another unpleasant feature of the treatment with chrysarobin is the discoloration of the face, giving the patient a mulatto's complexion, which disappears, however, as soon as treatment is discontinued.

The application of the faradic brush for five to ten minutes daily is an efficient adjuvant to the chrysarobin treatment, as is also daily massage, or friction with a rough towel.

Often irritants have been recommended, as blistering the scalp, scarifications, the use of croton oil, carbolic acid, etc. For example:

Carbolic Acid,
Chloral Hydrate,
Tincture Iodine, of each.....2½ dr.

Or:

Acetic Acid, Glacial.....16 grn.
Chloral Hydrate.....1 dr.
Ether.....6 fl. dr.

The best local remedies are, however, chrysarobin and the faradic brush. Internally arsenic, and subcutaneously pilocarpine, are well recommended. Recently, phototherapy has been used successfully in alopecia areata, but is not accessible to the majority of practitioners.

It should be noted that all these remedies

are also appropriate in advanced alopecia seborrhoica and, in fact, in all varieties of alopecia.

Another variety of baldness now demanding our attention is the *mycotic alopecia*, caused by different micro-organisms and, strictly speaking, a symptom of other diseases. Such are alopecia trichophytica or tinea tonsurans of the scalp, and alopecia favosa or favus of the scalp.

The first is oftenest met with in children; is highly contagious, but gives a good prognosis, as the hair-growth is almost always restored. The treatment consists in cutting the hair short and pulling the stumps of the affected areas out. A cleansing with soap and water follows, and tincture of iodine is then painted on the scalp; or the scalp is shaved and collodium applied for five to seven days. The collodium is then removed, and with the pellicle the stumps and scales come away. Now tincture of iodine is painted on, and the application repeated every three days for some time, when the scalp is again shaved, collodium applied, etc. In six to eight weeks the cure is complete. Other remedies, like croton oil, pyrogallie acid, resorcin, ichthyol, etc., have also been tried with success. A method recently proposed is to cut the hair short and apply the following to the scalp once daily, with a brush:

| | |
|-----------------------|--------|
| Acidi. Carbolicæ, | |
| Ol. Petrolei, aa..... | 2 oz. |
| Tinct. Iodii, | |
| Ol. Ricini, aa..... | 3½ oz. |
| Ol. Rusci, ad..... | 1 pint |

On the sixth day a cleansing with olive oil and a brush is ordered; on the seventh the above tincture is reapplied for five days. This cycle is repeated for three to four weeks. Thereupon a 10-per-cent. sulphur ointment is rubbed into the scalp for several days, and the treatment is closed with a two-weeks' course of the following:

| | |
|------------------------------|--------|
| Resorcin, | |
| Salicylic Acid, of each..... | ½ oz. |
| Alcohol..... | 4 oz. |
| Castor Oil, to make..... | 1 pint |

The other mycotic variety, alopecia favosa, requires the removal of the hair. This is best accomplished by pulling out each hair with a pair of pincers. The procedure is slow and trying, but there is none better. The following formulæ are useful:

| | |
|--------------------------|---------|
| Mercury Bichloride..... | 8 grn. |
| Tincture Iodine..... | 2 oz. |
| Salicylic Acid, | |
| Ichthyol, of each..... | 75 grn. |
| Green Soap, | |
| Petrolatum, of each..... | 5 dr. |

Or, a 1- to 10-per-cent. ointment of pyrogallie acid should be used persistently for

months, morning and evening. Lately the X-rays have been utilized in treating favus, and another modern method is the implantation of hair in scarified favus-scars. It is said that clippings of hair implanted in this manner strike roots and form new hair-follicles. The method, if really so efficient, should have a great future.

The last variety of alopecia is the *symp-tomatic*, which may be due to a score of external and internal diseases, as erysipelas, syphilis, leprosy, myxedema, acute infections, etc. The treatment is that of the underlying affection, supplemented by local irritants—cantharides, chloral, friction, etc.

It may be appropriate to close by emphasizing once more the importance of persistent treatment in all forms of chronic alopecia.

THE MEDICAL AND SURGICAL USES OF NORMAL SALINE SOLUTION¹

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SOLUTIONS containing only water and NaCl (in the proportion of 6 or 7 parts NaCl to 1000 of water) are called simple normal saline solutions; those containing, in addition to the NaCl and water, sodium sulphate and other salts, are called compound normal saline solutions.

Normal salt solution is one of our most valuable therapeutic agents. The use of saline infusions is as specific in its field of usefulness as that of any drug that we possess. Its field of usefulness is being constantly extended. It is a non-toxic agent. It can be obtained in unlimited quantities. In its use the question of cost does not have to be considered. "Normal salt solution has never been shown to have any deleterious influence on the tissues" (Hunter Robb). Vaquez examined the blood of animals that had been subjected to repeated saline injections. He says: "The white corpuscles showed no apparent change of form. The normal proportion of the different forms of leucocytes was not altered. No difference in the reaction of the blood elements to the different stains, especially none to eosine, or hemateine, could be detected." There is no fear of dangerous symptoms from the injection of 1 or even 2 liters of saline solution at a time (J. G. Clark).

It does not coagulate albuminous fluids. Its facility of preparation, its cheapness, its harmlessness, its non-toxicity, its manifold indications, its utility as a life-saving agent, all these and other reasons alike commend

¹ *The Surgical Clinic*, April, 1902.

its use to the physician. There is no toxic dose; there is only a toxic rapidity of absorption.

Why is the use of so serviceable a medicament as normal saline solution so restricted among the general practitioners? It is because they ignore the indications for and the contra-indications to its use; it is because they exaggerate the difficulties and the dangers, if there be any, of the different methods of administering the solution.

Like other therapeutic agents, normal saline solution must be employed, (a) with discernment and prudence; (b) at the proper time, its use never being delayed until all hope of its success is futile; (c) must be used in sufficiently large and repeated doses, the quantity to be used, and the frequency of use, varying with the conditions present in each individual case.

The saline solution, 7 per 1000, is the solution of choice to employ in therapeutics. "A 5 per 1000 produces the same physiologic action and possesses the same therapeutic effects as a 7 per 1000 solution. However, the physiologic effects which we consider the most important, as diuresis, thermic reaction, are not as rapidly produced, nor as marked, when the former solution is used as when the 7 per 1000 is employed" (Bosc and Vedel).

For transfusion and infusion purposes, normal saline solution has displaced human blood, because the transfusion of blood necessitates a cumbersome and complicated apparatus, and because it is difficult to find a donor of blood, of strong physique and free from constitutional taint. The technique of blood transfusion is far more difficult than that of normal saline solution; during transfusion of blood very painful symptoms are in some instances experienced; after transfusion there may be alarming prostration; may be hemorrhagic fever; with blood transfusion there is the danger of formation of emboli. Coagulation emboli were often the cause of death when blood transfusion was practised. The regeneration of the blood corpuscles after transfusion of the blood requires more than double the time required after saline injection. Hunter says, in the *British Medical Journal*, 1889: "Any value which blood transfusion possesses over the infusion of saline solution, depends upon the presence of the red corpuscles and their hemoglobin in the general circulation. Any advantages that transfusion of red corpuscles may have over saline injections, are counterbalanced by the dangers attending the simultaneous injection of the white corpuscles."

In the treatment of hemorrhage, another

advantage of saline solutions over blood transfusion is that the hemostatic action of the latter is less than that of the former.

"The injection of normal saline solution is free and safe from all the disadvantages of blood transfusion" (Jno. B. Bullitt). "The employment of saline solution has superseded almost entirely the use of blood" (Bryant).

The transfusion into human beings of the blood of inferior animals was discarded because it was not infrequently followed by acute nephritis, suppression of urine, hematuria, and uremic symptoms. It imperils life and often leads to a fatal issue. Landois, Ponfick, and Panum showed conclusively that the blood of one species cannot be injected without danger into another species.

The use of the human serum for transfusion purposes was abandoned because it cannot be obtained in sufficient quantities. Defibrinated blood should not be used, because the leucocytes so preponderate in it that transfusion of defibrinated blood is an operation not only dangerous in itself, but one whose practical value by no means compensates for the risks attending it (Hunter).

Pure water alters the blood corpuscles. It can, however, in emergencies be used for transfusion. Distilled water, however, must not be used, because when introduced into the blood it is decidedly toxic to the human organism, provoking bloody evacuations, causing degenerative changes in the blood corpuscles, and producing hemorrhages. Bosc and Vedel state that as a result of their laboratory experiments they have come to the conclusion that distilled water, when injected even in small doses into the blood, has an energetic toxic action.

Experiments have been conducted to determine the value of intravenous injections of milk in anemia. These injections have been found to be valueless, even dangerous. Dr. Joseph Howe in speaking of his experiments upon dogs with the intravenous injection of milk, says that when he had bled seven dogs to a state of syncope, milk was intravenously injected and not a single recovery took place. The intravenous injection of milk in human individuals is attended with serious accidents.

Various solutions are used by different clinicians. The following are often used:

Hayem's formula :

| | |
|----------------------------|------|
| Sodium Chloride..... | 5 |
| Sodium Sulphate..... | 10 |
| Boiled Filtered Water..... | 1000 |

Galvani's formula :

| | |
|----------------------------|------|
| Sodium Chloride..... | 7.50 |
| Sodium Bicarbonate..... | 5.00 |
| Boiled Filtered Water..... | 1000 |

These and other more complex mixtures

of various salts are recommended, but they take time to prepare, and there is no evidence that the results following their use are better than those that can be obtained by employing simple normal saline solution, which is a solution of common salt in water in the proportion of 7 parts of salt to 1000 of water. It can be prepared with reasonable accuracy, when the urgency of the case demands that no time be lost, by dissolving a teaspoonful of salt in a pint of boiled and filtered water. The water is boiled to sterilize it and thereby avoid infection. It is filtered to remove any foreign bodies present. Foreign bodies when introduced in the vessels may lead to embolic formation; when introduced in the tissues they irritate them. They may also block the lumen of injecting needle or canula.

The author has used various formulæ, and clinical observation has led him to believe that the other solutions possess no advantage over simple normal saline solution. There is only an infinitesimal proportion of sodium sulphate present in normal blood. Its addition to simple normal salt solution is of no advantage; according to Mazet, it appears to be injurious to the integrity of the blood corpuscles. Simple normal saline solution is the most easily prepared, the most inoffensive, and the most widely used of the various saline solutions. Common salt and water are found in every household. Simple normal saline solution, according to Bosc and Vedel, produces the maximum physiologic effects—most profuse diaphoresis and diuresis.

The various uses of normal salt solution are thus given by the author:

1. As an inexpensive cleansing spray in chronic hypertrophic rhinitis. Also as a gargle.

2. In diphtheria, irrigation of throat with hot normal saline solution gives much relief. Its use can be repeated every four hours. Irrigation removes all the loose membrane. It must be definitely understood that its use in this connection is only as a palliative and as a cleansing agent, antitoxin being the specific remedy in this affection.

3. In skin grafting and to douche skin grafts previous to transplanting them. Antiseptics exert a deleterious action on living cells and when used in skin grafting endanger the success of the operation. They impair the vitality of the grafts. Antiseptics must be thoroughly removed by prolonged douching with sterilized normal saline solution, from areas that are to be grafted.

4. As an irrigating fluid for wounds. When used for this purpose it must be sterilized. Saline solution used for this purpose

should have been boiled half an hour. When used as an irrigating fluid for wounds, it is preferable that it be warmed. Cold solutions chill the patient. To irrigate the urinary bladder, normal salt solution is an efficient agent, also for lavage of the stomach. Normal salt solution can be boiled for sterilization without changing its composition. It is less irritating to the hands of a surgeon than the repeated employment of solutions of antiseptics. It does not irritate the tissues. It does not impair their physiologic properties. Can be used for irrigation of uterus. In gonorrheal prostatitis, rectal irrigations are of value. White and Martin direct that they be used as follows: "A quart of 7 per 1000 salt solution is heated from 110° to 115° F., and the injection pipe is introduced into the anus, and its end tilted upward and forward so that the stream when it is turned on shall flow directly on the prostatic tumor as it bulges into the rectum. The exit pipe allows the fluid to flow away as fast as it enters the bowel. The treatment should be repeated two or three times daily." In abdominal surgery it is used to wash out septic material. Owing to the great absorptive powers of the peritoneum, solutions containing germicidal drugs, when used in abdominal surgery, in addition to their local irritating action, can produce systemic disturbance from the absorption into the system of the chemic irritants which they contain. "In abdominal surgery, warm sterilized salt solution is the best fluid to employ for irrigating the peritoneal cavity, or for washing out sponges, swabs or cloths." The only treatment, in the author's opinion, that offers any hope in septic diffuse peritonitis is early abdominal section, followed by intermittent or continuous irrigation of the peritoneal cavity with normal saline solution. In the female, opening can be through Douglass' cul-de-sac into the vagina and irrigating fluid can flow out that way.

5. In diarrheal affections. It is also of great value in gastro-intestinal infections of infancy. Injections of normal saline solution, whether intravenous, subcutaneous or rectal, raise the arterial pressure and hydrate the tissues. They quiet the intense thirst present in these conditions. "Emptiness of the circulatory cavities is the cause of the collapse in cholera." It is very useful, therefore, in the following diarrheal affections: (a) Cholera Asiatica (its use in this disease is sanctioned by the best authorities). "Owing to the profuse serous discharges, the blood becomes concentrated and absorption takes place rapidly from the lymph spaces. To meet this, intravenous in-

jections have been practised. This is really a valuable method, thoroughly physiologic, and should be tried in all severe cases" (Osler). (b) *Cholera nostras*. (c) *Acute enteritis*. (d) *Dysentery*. (e) *Gastro-intestinal intoxications of nurslings*. In profuse diarrheas, the sunken eyes of the patients show how wanting in fluid the tissues are.

6. In the anemic form of asphyxia neonatorum. "The infant is suffering from shock, and the measures which suggest themselves are similar to those we would resort to, were we dealing with an adult. Heat to the surface, injection into the rectum of a pint of hot (115° F.) saline solution, the instillation into the mouth of 10 drops or so of brandy, such are the primary measures of utility."

7. As a vehicle for medicaments used subcutaneously.

8. In surgical and puerperal infections. In these conditions the use of normal saline solution is an adjuvant measure to which must always be associated the habitual therapeutics of these infections. Results following its use in these conditions are often extraordinary. In combating infectious states, it is an aid of the greatest efficacy, providing that it be used in massive and frequently repeated doses and that the kidneys functionate. If the kidneys be incompetent and cannot eliminate the normal salt solution introduced into the tissues, the injection will not be productive of good. The subcutaneous employment of large doses of normal saline solution can be resorted to with advantage in infectious states, when symptoms of marked depression are present. The use of normal saline solution raises the arterial tension. This increase of arterial pressure causes increased diuresis. This increased diuresis is attended by an increased elimination of toxins. Tuffier has practised intravenous injections both for hemorrhage and for toxemia in fifty cases, and found the first effect was to restore the normal arterial pressure and diminish the frequency of the heart-action; the second, to cause diuresis. In septicemia, we endeavor to dilute the poison and eliminate it through the general secretory organs. We do this by means of enormous quantities of normal salt solution injected into the loose areolar tissue. In sapremia the use of saline fluid by hypodermoclysis, or by venous transfusion, dilutes the poison and stimulates the heart, skin and kidneys to activity.

Infections due to the bacillus coli communis are retarded in their development and combated by injections of normal salt solution.

There is a relation existing between the

infectious states and leucocytosis. In infectious conditions there is an increase in the number of leucocytes present in the blood. With the advent of convalescence, the number of leucocytes present in the blood diminishes.

The use of saline solution, when employed in pathologic states, is almost always followed by a diminution in the number of leucocytes. "The marked leucocytosis present in most infections diminishes rapidly after the use of injections of normal saline solution" (Andre Claisse).

Among the many effects produced by normal saline solution are increased force and regularity of pulse, except in cases where the arrhythmia is due to a cardiac lesion, when it stimulates the cardiac ganglia; dyspnea is relieved, renal activity increased, the amount of urea excreted is increased; diarrhea is often provoked; glandular activity increased; the production of saliva is increased; the tongue becomes moist and thirst disappears; activity of sweat glands is increased; the skin becomes moist a few hours after the injection; there is elevation of temperature, whether patient be hypo- or hyper-pyrexia; following the injections, there is a multiplication of hematoblasts. Injection of salt solution increases arterial tension and acts as a "whip" to all emunctories. They may also stimulate phagocytosis and may be tried in serious cases of broncho-pneumonia (Anders, Text-book of Practice of Medicine).

9. In malignant forms of syphilis that fail to respond to the usual anti-syphilitic treatment. "How does this medication (normal saline solution) act? Is it by exciting diuresis? Is it owing to a depurative action, resulting from the renal hyperactivity which it excites, this renal hyperactivity causing an elimination of toxins? Is it by provoking leucocytal activity and thereby increasing the individual's resistance against the virus? The diuresis following the injections is most abundant when the febrile reaction consecutive to the injections is most marked.

10. In uremic poisoning. "In case of insufficient secretion through the kidneys, stimulation of this function can usually be accomplished by injections of normal saline solution into the bowel; from one to three quarts being so employed once or twice daily."

During the author's internship at the Cook County Hospital the routine of treatment employed in uremic poisoning was the following: (a) Milk diet and an abundance of water. (b) Hydragogue cathartics; jalap and salines. (c) Alcohol sweat daily,

preceded either by a hypodermic injection of pilocarpine nitrate, $\frac{1}{6}$ grn., or of strychnine sulphate, $\frac{1}{25}$ grn., and nitroglycerin, $\frac{1}{30}$ grn., according to the condition of the patient's heart or lungs. (d) Enema of a pint of normal saline solution, t. i. d., to be retained; tube inserted high up.

Barre has obtained excellent results in cases of uremia by injecting intravenously a quantity of saline solution equal to the amount of blood simultaneously withdrawn.

11. Puerperal eclampsia. Pöral reports eight cases in which he used saline solution. Six recoveries. Audebert also recommends its use in this affection. [Robert Jardine has reported a number of successful cases and is very enthusiastic over this method of treatment of puerperal eclampsia.—Ed.]

12. Before operative procedures, when patients are anemic, either from repeated small hemorrhages or from one profuse hemorrhage.

In collapse, while the patient is being operated on. Here it is used as a cardiac stimulant. Intravenous or subcutaneous injections can be performed during the operation. After operations it quenches thirst, it contributes to the restoration of the blood volume, it lessens shock. Dr. Kelly (Baltimore) has employed submammary infusion in 41 out of 225 cases of abdominal surgery. Of these 41 cases, none suffered with as much as a cellulitis. Hunter Robb says: "I am convinced that the use of salt solution undoubtedly diminishes the shock which generally follows a serious abdominal operation."

Normal saline solution, when administered after operations, lessens the tendency to suppression of urine. It is valuable in aiding in reaction from the shock (death from shock after exhaustive hemorrhage directly after the patient leaves the operating table is by no means rare) incident to the anesthetic and to the operation. After post-partum hemorrhage and after operations in which there has been much hemorrhage, the author always prescribes an enema of 1 quart of warm, 110 to 115° F., normal saline solution (enema to be retained), to be repeated every four hours until three have been taken. If the condition is serious, he orders the enema to be repeated hourly until the quality of the pulse improves. Two to four ounces of brandy can with advantage be added to the first enema.

13. In diabetic coma, transfusion of saline solution has proved of service to prolonged life.

14. In some forms of vegetable poisoning such as toadstool poisoning (Noyer).

15. In the local treatment of burns,

gauze saturated with sterile normal salt solution is used. In the shock following burns, normal salt solution per rectum, hypodermically or intravenously, will prove of service. In the treatment of electric burns, normal salt solution fomentations are recommended by some authors.

16. In tapping or in withdrawing fluid from a chronic hydrocephalus or from a meningocele, the too rapid withdrawal of the fluid may cause alarming symptoms. If it does, inject into the subarachnoid space or into the ventricular space some sterilized normal salt solution.

17. In shock or in collapse following large hemorrhages, we have no other therapeutic agent that will give results comparable in value to normal saline solution. No patient should be allowed to suffer from symptoms of shock or depression without its employment, the exact amount given being governed by the reaction of the patient. If after a few hours, symptoms of depression again supervene, the injection should be repeated.

In shock, normal salt solution is valuable to stimulate the heart and arteries, so that the blood which has accumulated and stagnates, especially in the large abdominal vessels, may again be put in active circulation. The increased arterial tension furnishes more nutrient blood to the heart through the coronary arteries; as the right heart feels the pressure of the injected fluid the heartbeats become lengthened and increase in force, and the blood pressure in the peripheral arteries rises, energizing the action of the heart.

Brunton says that shock is mainly due to paralysis of the heart and to vaso-motor paralysis of the abdominal vessels. The sudden dilatation of the abdominal vessels causes symptoms similar to that of sudden or profuse hemorrhage. The blood pressure fails, the remote arterioles contract, the heart falters. Mayo Robson describes cases in which infusion of several pints of normal solution into the circulation warded off impending death, in cases of intense shock after operation.

18. As a vehicle for nutrient enemata.

19. To combat the effects of hemorrhage, normal saline solution is the agent *par excellence*. The more general and frequent use of saline injections in all cases of acute anemia from hemorrhage that do not respond to ordinary stimulation, cannot be too strongly urged. "Many a life is now lost in private practice after severe post-partum or other bleeding has been controlled, because the family doctor has not had the nerve, or the experience, or the appliances thought

necessary, to accomplish infusion, and the remaining amount of circulating medium being not sufficient, the patient succumbs" (Dawbarn). "A patient should never be abandoned as dead from hemorrhage unless copious saline infusion has been performed, for surprising results have followed when it has been administered, even in apparently hopeless cases" (Morton).

Its use is indicated in all forms of hemorrhage, traumatic, operative, post-operative, post-abortion or post-partum. The practitioner will find it of value to combat the anemia resulting from intestinal hemorrhage, as in typhoid fever; from hematemesis, as in ulcer of the stomach; from uterine hemorrhage as in fibroma; cancer uteri; from hemorrhage due to ruptured varicose veins; from concealed hemorrhages, as in ruptured extra-uterine pregnancy.

Injectations of normal saline solution increase the volume of the blood and lessen its specific gravity. This abundant addition of liquid to the circulating fluid is of value after hemorrhage, because by restoring the blood mass it re-establishes the arterial pressure necessary to stimulate the centers in the medulla oblongata, vital functions return. The pulse becomes palpable, respiratory action is stimulated, warmth returns to the periphery, the tongue becomes moist, the voice becomes louder.

Normal saline injections have a hemostatic action (Hayem). The coagulating properties which they possess prevent the increased arterial pressure which follows their use being attended by a renewal of the hemorrhage. This hemostatic action of normal saline solution is due (a) to its exciting vasomotor constriction of the ruptured arterioles; (b) to the fact that it activates the precipitation of the hematoblasts at the site of hemorrhage, thus forming centers of clot formations.

When combating the effects of hemorrhage by the infusion of normal saline solution, the bleeding points when accessible, must be secured. When the source of hemorrhage is not accessible, as in the intestinal hemorrhage of typhoid fever, we must begin with intravenous or subcutaneous injections of small quantities, say 200 to 300 Cc. Later we can employ larger doses.

W. H. Thompson recommends hypodermic injections of normal salt solution in the treatment of hemorrhages of typhoid fever. He injects the solution in the lumbar region between the crest of the ileum and the twelfth rib. An ordinary hypodermic needle attached to a fountain syringe may be used, and the fluid should have a temperature of at least 100° F.

There are three principal routes for introducing normal saline solution into the human system: I, the rectal route, II, the subcutaneous, and III, the intravenous.

The use of salt solution by mouth is not practicable. It excites nausea, it may provoke vomiting, and it is impossible to ingest sufficient quantities that way. The intra-arterial route is condemned by almost all authorities. "Permanent dilation of the walls of the artery, and even sloughing of the soft parts, have followed the use of the intra-arterial method" (Bryant). Its use has been followed by serious accidents, such as gangrene. The injection of the solution through the abdominal wall into the peritoneal cavity, carries with it the danger of wounding the intestines and cannot be recommended.

The filling of the peritoneal cavity with the normal salt solution at the close of an abdominal operation before closing the belly wall, is a different matter, and is a procedure that is increasing in popularity. It is quite a common practice for Chicago surgeons to leave a pint or more of normal solution in the abdomen. It minimizes shock. It is absorbed with great rapidity after the operation, if the patient is placed with his head lower than his feet, because in this position the fluid gravitates to the diaphragmatic region, whose absorption is very active.

Some clinicians have injected the solution into the pleural cavities. The results were not encouraging.

I. The *rectal route* is employed when the condition of the patient is not critical. Lepine says: "Therapeutic effect of the rectal injections is precisely the same as that of the subcutaneous injections." Many observers have noticed that the rectum is capable of absorbing large quantities of salt water and that these enemata favor diuresis and diaphoresis. It is painless to the patient. It does not require the presence of the physician. It can be administered by the nurse or the patient's attendant. The solution employed does not need to be sterilized. The possibility of local infection following the use of the rectal route does not exist, while with a careless operator local infection may follow the employment of the subcutaneous or intravenous methods.

For rectal injection of saline solution we need: (a) A 3-quart fountain syringe. (b) A long rectal tube. In the absence of a rectal tube, a rectal canula can be used. "In order that voluminous rectal injections of normal saline solution may be most effectual, the tube must penetrate the sigmoid flexure and command the absorptive powers

of the descending, the transverse and the ascending colon; therefore a long tube must be used and the injection pushed to tension limits" (McNeil). (c) Some plain water. (d) An abundance of normal saline solution. Injections must be repeated as often as the patient's condition demands it.

Proceed as follows: (a) Give the patient a cleansing enema. After voidance of this (2) elevate the foot of the bed. If that is not convenient the patient's buttocks must be elevated. The bed is elevated so that the saline fluid will pass into the bowel by gravitation. It quickly gets into the circulation, owing to the large absorbing surface. (b) Put patient on his right side. His body is to be arched. (c) Have your solution at the temperature of the body. It has been shown by experiment that the absorptive property of the rectal mucosa is most active when substances injected have the body temperature. Cold solutions must not be used; they cause chills. (d) In inserting the rectal canula or nozzle, bear in mind that the rectum at its lower portion for the extent of about $1\frac{1}{2}$ inches comes from above down and from behind forward. For voluminous injections, a well lubricated rectal tube is useful. (e) In some conditions it may be necessary to press a pad against the anus, or the buttocks can be pressed together so as to have the solution retained. If the intestinal susceptibility prevents the retention of the enema, insert the tube high up and make the injection under low pressure. The solution must not be injected too forcibly or too quickly. About 1 pint should be injected at a time, and this can be repeated every few hours if needed.

II. The *subcutaneous method*. Subcutaneous injections, though slower than intravenous, are devoid of danger when done with a proper technique and aseptically. They may be superficial; that is, under the skin. They may be deep in the muscular tissues. In using the subcutaneous route, the solution must be absolutely sterile; and the strictest asepsis must be observed in all manipulations.

Proceed as follows: (a) Select a region where the cellular tissue is loose and easily distensible, as the axilla, the buttocks, the subscapular region, the abdominal wall, etc. The infra-clavicular, retro-mammary, and retro-trochanteric regions can be selected. (b) The site of injection must be sterilized. Scrub with soap and water; wash with alcohol; wash with HgCl_2 , 1:2000; irrigate with sterile water. (c) The needle, tube and receptacle containing solution, as well as the solution itself, must be sterile. (d) The temperature of the solution should be

from 105 to 115° F. The saline solution will become cooled before it is entirely used, unless the vessel containing it be placed in another filled with fluid kept still hotter than this by the frequent addition of boiling water. About 700 Cc. can be safely injected through one puncture. Experiments have shown that absorption is most rapid when the arterial tension is low. (e) In inserting the needle, be careful not to wound any superficial veins. Introduce the needle while the fluid is flowing, so as to avoid the introduction of air into the tissues. Usually a simple elevation of the reservoir containing the saline solution is sufficient to force the fluid into the loose cellular tissue. (f) After from 500 to 700 Gm. of solution have been injected through a single puncture, the needle is removed. The small cutaneous wound made by the needle is to be occluded by collodion and some sterile absorbent cotton; then a dressing applied, which should be kept in position by bandage. The absorption of the injected fluid is hastened by massaging the tumor mass with the hand. In healthy individuals the edema attending the subcutaneous injection of the saline solution disappears in a few hours. In cardiopaths and nephritics it takes at times from three to five days for resorption to take place.

Advantages of subcutaneous method over intravenous method:

1. The patient's and his parents' consent to subcutaneous injections are more easily obtained than for intravenous injections. The procedure not necessitating an incision, is not considered an operation. The injections are more easily repeated.

2. No anesthetizing of the area to be incised, no cutting, no stitching of wound, are necessary. There is no danger of introducing air into the circulation. The fluid is slowly taken into the general circulation, thus avoiding the danger of sudden increase in blood pressure.

3. The technique is simpler. Fewer instruments are needed; a douche bag or syringe, a piece of tubing, a hollow needle from the aspirating case or from the hypodermic case, are all the instruments needed. In hypodermoclysis you can inject simultaneously at more than one point, so that absorption will go on more rapidly.

There are only a few objections to the subcutaneous route. They are, the pain incident to puncture and to repetition of punctures. The pain is slight. There is some pain due to distention of the skin. This, however, does not last long. The possibility of local infection and abscess formation does not exist when surgical cleanliness

is observed. Infection following subcutaneous or intravenous injection of normal saline solution is evidence of negligence on the part of the surgeon. One of the greatest advantages of subcutaneous injections is that they, owing to the simplicity of their technique, can be given by the nurse.

III. The *intravenous method*. In urgent cases, owing to the greater rapidity of action, the intravenous route is preferable.

Objections to the use of the intravenous route:

1. When the patient has lost much blood, the veins are not full and are difficult of access.

2. The lumen of the vessels may be so small that neither the infusion canula nor the smallest aspirating needle can be inserted (J. G. Clark).

3. The vein is often difficult to find in children, in women and in obese individuals.

4. Cardiac lesions and myocardial weakness should always make us prefer the subcutaneous or the rectal route. By intravenous transfusion, cardiac paralysis may be induced through over-distention (Bovée).

5. The danger of producing an acute pulmonary edema. Generalized pulmonary edema is one of the most frequent accidents of intravenous injections.

Too rapid intravenous injection of normal saline solution may cause cardiac distention, pulmonary disturbances, pneumonia, edema of the lungs, etc. Forneauux noted engorgement of the spleen and liver, with marked pain in the latter, in one case. Pleural, peritoneal and subarachnoid effusions have been noticed by other observers.

In adults an intravenous injection of 1500 Gm. in about fifteen minutes does not cause any symptoms of intolerance. In children, be the route the rectal, the subcutaneous or the intravenous, the dose is to be proportioned to the age and weight of the patient. The condition of the patient's pulse will tell us when enough fluid has been injected. This, however, does not hold good in sepsis.

The fact that the results are more rapid, and that by it heat is brought directly to the cardiac and arterial ganglia, is what commends the intravenous method to many clinicians.

Technique of intravenous method:

1. The following instruments are needed: A scalpel; two dissecting forceps to elevate the tissues and aid in isolating veins; a constricting band, an aspirating needle; a hypodermic needle can do, but a metal or glass canula, the end of which is bulbous, blunt and beveled, and of such a caliber that it can easily be tied into the selected vein, is

preferable to either; a large funnel or recipient provided at its lower extremity with a rubber tube 1.5 meters (about 4½ feet) long, to which is adapted the aspirating needle or a large hypodermic needle; surgical needles and silkworm gut to suture incision after transfusion is completed; catgut to ligate distal and proximal ends of veins; two hemostatic forceps to check cutaneous hemorrhage.

2. Any large vein may be selected. Veins at the bend of the elbow are the ones usually chosen. The median cephalic vein is preferable. It is at a greater distance from the brachial artery and the cutaneous nerves are posterior to it. If the veins of the arm are chosen, the right arm is preferable, because its veins are a trifle more prominent. The internal saphenous vein can be selected. It is easily accessible, and is a good vein to select. Its caliber is larger than that of the veins of the elbow, and it is easy to locate in fatty subjects. The introduction of a little air, when occurring at such a distance from the heart, does not offer much danger.

All the instruments above mentioned must be sterile. The site of injection must be disinfected; the surgeon's and assistant's hands must be surgically clean. Anesthetize the line of incision, either with ethyl chloride or by intra- and subcutaneous injections of 1-per-cent. solution of cocaine. Schleich's solution may be used. If the forearm is selected, before making the incision, place the arm in position of supination.

4. A constricting band is tied about the extremity above the selected site for operation, so as to lessen the upward diffusion of the anesthetic and congest the veins and make them stand out. If the vein of the elbow be selected, apply the constricting band midway between the elbow and shoulder joints, sufficiently tight to interrupt the venous return but not so tight as to impede the arterial flow. This is of course to be removed as soon as the needle has been introduced into the vein. Or, the limb may be made to assume a dependent position over the side of the table or bed. If this does not make the veins prominent (because of non-action of the heart or the small amount of circulating medium), rubbing the parts in the direction of the arterial supply will generally suffice.

5. Expose the vein selected. It is the only way to introduce the needle with precision and accuracy. Introduction of the needle into the vein through the skin is a blind, unreliable, unscientific procedure. The vein is to be opened between two ligatures. The glass tube or needle is to be introduced into the vein while the fluid is escaping,

being careful that the fluid penetrates the vein and not the sheath. The canula is thrust upward in the proximal end of the vein, that is, in the direction of the blood current, for $\frac{1}{2}$ to $\frac{3}{4}$ inch, and secured in position by tying down the upper ligature so as to bring the vein wall tightly about the canula. The solution should have a temperature of about 105° to 115° F. The receptacle is raised 1.5 meters ($4\frac{1}{2}$ feet) above the level of the bed. This allows the liquid to flow at the rate of 1500 Gm. (3 pints) of liquid in twenty-five to thirty minutes, the rapidity of the flow being controlled by the height of the receptacle and by the caliber of the needle. The higher the receptacle, the more rapid the flow; the larger the caliber of the needle, the greater the volume of the fluid flowing through it in a definite space of time. The patient should always be watched for some hours after transfusion, and if the pulse again fails the transfusion must be repeated.

Quite often it is necessary to repeat these intravenous injections, and the same vein may be used for successive operations. It is then to be incised for a few centimeters above the first incision.

ICHTHYOL IN SKIN DISEASES¹

By Arthur E. Taylor, M.B., C.M., L.R.C.P., L.R.C.S., Edin.

IN the treatment of various skin affections I can speak most highly of ichthyol. Cases of eczema in all forms, acne, psoriasis, and numerous other skin affections of an allied character have done well, and in some cases have yielded almost instantaneously to the treatment of ichthyol internally and externally.

I quote some typical cases:

I. Hospital patient: Presented himself at my out-patient department suffering from acne vulgaris, chiefly affecting the back, which was of so virulent a character that it was scarcely possible to discern a single patch of healthy skin. Various remedies had been tried with only temporary improvement; at last I decided to try ichthyol. I gave him it internally and also in the form of an ointment (20-per-cent.) to be applied every night. In a few weeks he had greatly improved, and now, after five months' treatment, he is practically well, but I am still continuing treatment as a few spots have shown themselves on his face.

II. This case occurred in my private practice. A female, aged thirty-five, who suffered from pustular eczema of the face which had troubled her for some years. She had been under the care of two London skin specialists but could not, unfortunately, spare the time and expense to carry out the recommendations and treatment advised by them. Knowing that most of the ordinary remedies had been applied, it struck me to give ichthyol a trial. Accordingly, I put her on it—in-

ternally and externally. For a few weeks I am bound to confess that my faith in ichthyol did not increase, but now, after three months' treatment, the result is beyond what I had hoped for. The patient's face is almost clear and she can attend to her regular duties.

I am not prepared to say in either of the two cases I have quoted that the cure is complete, only that results so far convince me that ichthyol is of great service.

III. This patient had been under my care some three years ago for scaly eczema and in spite of all remedies I knew of improved so slowly that I advised a change of air. He went to Yorkshire, and when there placed himself under the care of a well-known physician, and he slowly improved, and was able in three months to return home partly cured, but the complaint never really left him, and was a continuous source of trouble. He is a very keen cricketer, and a very good player, but unfortunately the state of his arm and leg has been a great handicap to him, and kept him out of the field to a great extent. He called early one morning to see me, suffering from strangulated hernia, which I failed to reduce, and operation was decided upon. This was done by my colleague, Dr. Lynn Thomas, and when placing him back in bed, after a most satisfactory operation, my attention was called to the state of his skin. I found that the arms, legs, and trunk were involved in one continuous mass of scaly eczema. With my colleague's consent I promptly gave him ichthyol internally and instructed the nurses in charge to rub him from head to foot with 20-per-cent. ichthyol ointment. This was done persistently for three weeks while he remained in the private hospital, and was afterwards continued by himself. The result was most gratifying, and he stated that he had not been so free from the complaint for years. I examined him a few days ago: the eczema has practically disappeared, and the skin is looking healthy and well.

IV. Some months ago, early in 1901, I was consulted by an elderly gentleman suffering from exfoliative dermatitis supervening on pemphigus. It had troubled him for some time and was undermining his health to a great extent. I put him on many and various remedies, both external and internal, but the case made no improvement. All the ordinary remedies had had a fair trial, but I was getting anxious and the patient more and more irritable at the non-progress. Having had some considerable success with ichthyol in other cases I determined to try it in this case and see what the result would be. I may add that the patient was over sixty-five years of age. I first placed him on 5 grn. of ichthyol internally three times a day, and had an ointment of ichthyol, 20-per-cent., applied to the feet and scrotum, etc., which were the parts chiefly affected. For the first fortnight the improvement was very slow, but the pain had been reduced. At the end of fourteen days I increased the ointment to 30 per cent. and the internal dose to 7 grn. three times a day. After another fourteen days, when the crusts had commenced to dry up and reduce in size, I put him on a still stronger ointment, this time 50 per cent. From this time forward he never looked back, and in six to seven weeks from the starting of the ichthyol treatment he was able once more to resume outdoor exercise, at first, of course, limited, but early in September he was able to go away to the seaside, where he did a lot of walking and came home at the end of a month perfectly well, able to walk any distance, and his weight back to the usual standard.

¹ *The Hospital*, Feb. 15, 1902.

THE MODERN TREATMENT OF PUERPERAL INFECTION¹

By Frederick H. Wiggins, M.D.

THE author thus outlines the treatment of this disease, which while exceedingly rare in modern lying-in hospitals—and where it has only a mortality of a fraction of 1 per cent.—is still very frequent in private practice. In fact, here it is almost as frequent and is followed by as severe constitutional symptoms and with as high a rate of mortality as it was fifty years ago. One point in the prevention of puerperal fever: as soon as the labor is over and the patient has rested a little, the physician should carefully inspect the perineum, vulva, vagina, and cervical tissues, and if any lacerations are found, they should be at once repaired and the parts washed with sterile salt solution and hydrogen peroxide, and protected with sterilized pads. No intra-uterine douche should be given unless it has been necessary to introduce the hand into the uterine cavity. In the after-treatment of the patient under normal conditions, vaginal douches should be omitted, the nurse being directed to keep the external genitals and the anal region in good order by carefully washing and disinfecting them after each act of urination and defecation.

If, on visiting the patient, the physician finds an accelerated pulse and elevated temperature, he should carefully examine her and afterwards make a local examination, first disinfecting his hands and instruments. If he finds an ulceration of the perineum, vagina or cervical tissues, he should thoroughly wash out the vagina with salt solution and follow this with peroxide of hydrogen; if in the judgment of the physician it is necessary to follow this treatment with other irrigations of the vagina, he should administer them himself and not leave them for the nurse. If the septic trouble is more serious in character and is due to the retention in the uterine cavity of decomposed septic material, the patient should be put on a table and placed under the influence of an anesthetic and, after the external genitals and vagina have been carefully disinfected, the uterine cavity should be explored with the finger, which has also been carefully disinfected, or—if the operator is trained and skilful—with the curette, and the offending material removed. The cavity of the organ should then be thoroughly washed out with saline solution followed by hydrogen dioxide and an application of Monsell's solution if the

cavity has been curetted. If the operation has been well performed the patient's constitutional symptoms will probably disappear and no further uterine intervention will be necessary. It will, however, probably be best for the physician to give the patient a vaginal douche of saline solution, followed by hydrogen dioxide, once or twice a day for several days. If the constitutional symptoms persist and the condition becomes chronic, it may be necessary to again explore the cavity of the uterus. If the trouble extends beyond the endometrium and an abscess forms, it should be evacuated by means of a vaginal incision, or if there be a bilateral pyosalpinx to deal with, it may be necessary to open the abdomen and remove the diseased tubes and uterus. If it be determined after careful examination that the septic condition of the patient is due to the direct invasion of the tissues by the virulent streptococcus, the physician should, in the writer's opinion, after thoroughly cleansing the external genitals and the vagina of the patient, dilate the cervix and explore the uterine cavity with the finger or with the curette, and then, after thoroughly irrigating the cavity with saline solution and hydrogen peroxide, should make an application of Monsell's solution. If the constitutional symptoms of the patient, as the result of this treatment, do not show improvement in a few hours, an intravenous infusion of a considerable quantity of saline solution should be given and the advisability of opening the abdomen and removing the uterus considered, bearing in mind that the uterus is the focus of the disease and that the patient's system will eliminate a reasonable amount of the infective material by the skin, kidneys and intestines; therefore, if the further production of the poison can be stopped, there is a reasonable chance of that already in the patient's system being eliminated and recovery following.

Although a few observers have claimed benefit to have accrued to their patients suffering from this form of infection from the use of Mamorek's antistreptococcus serum, the burden of testimony is against its having been of any avail in these cases; if used, from 10 to 20 Cc. should be injected into the patient's body every twelve hours till she shows signs of improvement, or a reasonable quantity has been used. When from the severe prostration and other constitutional symptoms which accompany it, there is reason to believe that the patient is suffering from septicemia, she should at once be stimulated and given the benefit of a large intravenous saline infusion slowly administered, the temperature of the solu-

¹ *Jour. Amer. Med. Assoc.*, April 12, 1902.

tion in the reservoir being 120 F., and if she rallies in response to this treatment the vagina and uterine cavity should be cleaned out by thoroughly washing them with saline solution followed by hydrogen dioxide, and the cavities loosely packed with sterilized gauze soaked in ozonized glycerin, which will tend still further to disinfect the parts; the gauze should be removed in from eight to twelve hours and the application repeated.

If under this form of treatment there are signs of improvement, it may be continued at lengthening intervals, or the propriety of more radical measures be considered. If there is no improvement in the patient's condition, further operative treatment will be of no avail. If pyemic conditions are recognized before the onset of pneumonia, there may be some hope under favorable conditions of saving the patient by cleansing and disinfecting the external genitals and vagina, followed by the prompt performance of an abdominal hysterectomy. When thrombosis of the femoral vein occurs, its course should be painted with iodine, the limb wrapped in cotton, bandaged and kept in an elevated position, which should be maintained for two weeks after all swelling has disappeared. Abscesses should be promptly opened.

In the treatment of the various forms of puerperal wound infection there is little to hope for in the use of drugs, except as temporary aids, the physician's reliance being placed rather on the administration of proper nourishment, increasing the activity of the skin, kidneys and bowels, the internal administration of large quantities of saline solution by means of enemas, injections under the skin or into the patient's veins, according to the urgency of the symptoms, and appropriate, carefully considered local treatment, which must be decided for each case as it arises.

Curettage and other operative measures should not be universally condemned, because when performed by inexperienced and untrained men, or under unfavorable conditions, they have more often been followed by harmful rather than good results. The importance of an early recognition of the fact that the patient's wounds have become infected can not be overestimated, for on this the physician must rely to institute proper local treatment at an early stage of the trouble and before the patient's system is overwhelmed by the poison, for on this must largely depend whether or not the prognosis of the graver forms of the disorder is to be more favorable in the future than in the past.

THE THERAPEUTICS OF SPARTEINE

Dr. Thomas¹ reports the results of his clinical observations on the action of sparteine. After subcutaneous injections of 5/8 grn. of sparteine sulphate, repeated two to three times daily, the diuresis was carefully noted. The amount of urine voided did not exceed 3 quarts. In this respect, therefore, sparteine is inferior to theobromine, which gives far better results, especially in cases complicated with a chronic hepatitis.

As to the cardiac effects of sparteine, the heart-beats become regular and strong after its administration, and this lasts a varying length of time, according to the condition of the organ. Sparteine seems to be more successful in cases allowing some delay than in those calling for prompt action.

Comparing sparteine with digitalis, the author finds the former less powerful, less durable, but also less cumulative and toxic than the latter in its effects. He has used sparteine in several cases of cardio-vascular disorders in typhoid fever, with good results. He notes the absence of those phenomena of excitation which follow the administration of caffeine. Comparing these two drugs, the author reserves caffeine for cases requiring prompt cardiac stimulation, and, after the crisis has been safely passed, he resorts to sparteine for regulating and reinforcing the heart.

The dosage of sparteine is a simple matter. The sulphate is easily soluble and suitable for injections and mixtures; it may also be prescribed in pill form. Not more than about 3 grn. in twenty-four hours should be given. Hypodermically, 5/8 grn. three times daily ought to be the highest limit.

In chronic cardiac affections, sparteine, while not detracting from the value of digitalis, may replace the latter and aid its action. Like digitalis, it favors diuresis, reinforces the heart, diminishes its dilatation, and regulates its rhythm. The absence of cumulative effects and of toxicity, even if used over prolonged periods, make sparteine a valuable remedy. The chief indications are chronic myocarditis, the beginning of asystole and the subjective phenomena of cardiac irregularity. The coincidence of hepatic and pulmonary complications, on the other hand, calls for more energetic remedies.

In the course of infectious maladies, sparteine is indicated when we are in need of regulating and strengthening the heart, the author concludes.

¹ *Rev. de Therap.*, LXIX, No. 7.

Progress in Materia Medica and Therapeutics

MENTHOL PRELIMINARY TO ANESTHESIA

Mentholization of the mucosa of the air-passages before, during, and after etherization has given Dr. W. A. Briggs¹ such satisfaction as to impel him to submit the method to the profession at large. The method is as follows: Sprinkle a dram of oil of peppermint or of saturated alcoholic solution of menthol in the cone; let the patient inhale of this freely for three minutes, then saturate the cone with ether and bring it down slowly over the face; after a few full inhalations crowd the cone down well and push the etherization as rapidly as is consistent with safety; continue the use of the mentholized cone through the whole period of anesthesia, replenishing the ether as usual. After the operation let the patient inhale oil of peppermint or menthol from a handkerchief, freely, and often until the tendency to nausea subsides.

The advantages of this over the usual method are the following: (1) Entire freedom from cough and sense of impending suffocation, and comparative freedom from nausea, vomiting, and retching. (2) Ease and rapidity with which anesthesia may be induced and the ease and smoothness with which it may be maintained. (3) The entire absence or marked abbreviation of the period of excitement. (4) Economy both of ether and of time. (5) Profounder first anesthesia, under which minor operations may be done with more certainty. (6) Probably less post-operative nausea and vomiting.

THE TREATMENT OF CHOLELITHIASIS

The first aim of treatment should be to prevent bacterial infection from the intestines, says Prof. Wm. H. Thomson.² Chronic constipation is one of the commonest conditions which favor such infection, and, accordingly, we find that sufferers from cholelithiasis are also in most cases victims of chronic constipation. This further accounts for the large percentage of women subject to gall-stones.

For this reason Carlsbad salt and other salines are so valuable in treating biliary calculi. The salts help to remove the mucus from the intestinal walls and produce regular evacuations. It is advisable to alternate the various saline laxatives, giving 2 dr. of sodium sulphate, or sodium phosphate, or Carlsbad salt, in a glass of hot wa-

ter on rising in the morning, and changing the saline every few days. A prolonged effect is thus insured. The author advises the addition of 10 grn. of sodium salicylate to the morning saline dose. Once or twice a week a mercurial laxative is ordered at night for purposes of intestinal antisepsis. In elderly patients, castor oil often acts better than anything else, and a trial is justified when mercurials cause more than a day's discomfort.

The best cholagogues are sodium salicylate and sodium benzoate. They are advantageously given in combination over prolonged periods in doses of 10 grn. each, one hour after meals, in capsules or in solution, to be taken with Vichy water. In old persons with weak hearts and thickened arteries 4 to 5 grn. of sodium iodide form a good addition. Hoffman's anodyne and spirit of chloroform are also efficient, but are often badly tolerated.

The most efficient agent against gall-stones is olive oil, if properly administered. The rationale of its action becomes clear when we consider that oils are very potent in producing a watery flow from mucous membranes, whether taken internally or locally applied. Herein lies the explanation of the time-honored custom of mothers to grease the nostrils of children suffering from a "cold in the head." A teaspoonful of olive oil held in the mouth is the best sialagogue. Taken internally, the oil is absorbed into the blood and passes out by different mucous tracts, stimulating an abundant flow of watery secretions. This is well illustrated in the action of castor oil in colitis. It is even inadvisable to give castor oil to infants with bronchitis, for the increased secretion may block the bronchial tubes. On the other hand, in the bronchitis of older children and adults, an emulsion of linseed oil is the most efficacious remedy.

Now, as to the action of olive oil in cholelithiasis. In the first place, it is a food oil, and, taken in small quantities, does not derange the stomach. It passes into the duodenum and excites here the flow of the normal secretions; that is, bile, pancreatic juice, and the secretions of Brunner's glands. But for this purpose no more than 1 to 2 oz. is required, because an increased secretion below the duodenum is not indicated.

The oil is best taken in a cup of hot milk at night, the milk greatly aiding the stomach in tolerating the oil. Patients with cholelithiasis take this dose for ten consecu-

¹ *Amer. Med.*, April 26, 1902.

² *N. Y. Med. Jour.*, LXXV, No. 16.

tive nights, then make a pause of about a week, and resume the remedy for ten more doses. Experience has demonstrated the efficiency of this treatment beyond all doubt. Immediate relief does not follow, however, but a progressive amelioration of symptoms. The treatment outlined generally requires from two weeks to four months to effect a cure.

The gastric disturbances accompanying cholelithiasis call for a careful regulation of diet. All indigestible foods, especially fried articles, sweets, etc., are to be avoided. Medicinally, a pill of $\frac{1}{20}$ grn. of potassium bichromate half an hour before meals, with 5 grn. of resorcin in solution half an hour after meals, are useful in this subacute gastritis.

ACOIN AND DIONIN

The method of local anesthesia has made rapid progress in late years. Cocaine was the leader of local analgesics formerly, but at present numerous substitutes are contesting the field. Acoin is one of them. Dr. A. Darier¹ was the first to show that by means of acoin subcutaneous and subconjunctival injections of the most irritating substances may be rendered painless (injections of iodine, mercury bichloride, etc.). The chief feature, moreover, is the absence of any unpleasant collateral effects. The author has employed acoin for two years continuously, and has not recorded any dyspnea, nausea, headaches, or palpitations following its use, as is often the case with cocaine.

A peculiar limitation to the use of acoin is the circumstance that the drug does not exercise any anesthetic action *as long as the conjunctiva is normal*. No sooner is the epithelial covering destroyed, than acoin will produce analgesia which is more intense and ten times more lasting than that of cocaine.

For operations on the eye, interstitial injections of 1-per-cent. solutions of acoin are sufficient. The greatest service obtained from acoin, however, is the possibility of rendering subcutaneous or subconjunctival injections of sublimate, iodine, arsenic, etc., painless by injecting, simultaneously or before, a sufficient quantity of a 1-per-cent. solution of acoin.

Another interesting analgesic is dionin, a drug possessing the remarkable power of quieting certain violent ocular pains occurring in glaucoma, iritis, keratitis, etc. The mode of employing dionin for this purpose is very simple, it being sufficient to instil into the conjunctival sac 1 drop of a 1-per-cent.

solution of the drug. Combined with its analgesic properties is its lymphagogue action, which renders it very serviceable in hastening the removal of inflammatory exudates in the eye. Both these virtues are altogether absent in cocaine.

POTASSIUM NITRATE AND NITRITE IN VASOMOTOR TENSION

It is a hackneyed saying that a man is as old as his arteries. With advancing age the vessels lose their elasticity and offer an increased resistance to the circulating blood. Increased resistance, in turn, leads to cardiac hypertrophy, and both changes bring about high blood-pressure in the small arteries. The remote sequences are angina pectoris, cerebral hemorrhages, etc.

In angina pectoris we can rapidly reduce the blood-pressure by means of amyl nitrite and nitroglycerin. Nitro-erythrol, or erythrol tetranitrate, in half-grain doses thrice daily, acts more slowly but also more permanently. These remedies suffice for angina.

Not so in cerebral hemorrhage, however. Here a gradual reduction of the tension in the vessels is desirable, and for this purpose Sir Lauder Brunton¹ recommends potassium nitrate (saltpeter). Only the common, non-purified saltpeter seems to have the desired therapeutic efficiency, while the chemically pure is inert. This curious circumstance the distinguished author has found to be due to the admixture of potassium nitrite found in the impure saltpeter. It is this combination of nitrates with nitrites which accounts for the felicitous action of impure saltpeter. The latter may be efficiently replaced by an artificial combination of potassium bicarbonate, potassium nitrate, and small doses of potassium nitrite—say, 30 grn., 20 grn., and $\frac{1}{2}$ grn. respectively, at one dose, in a large glass of water.

This treatment, ordered once a day for a variable length of time, is recommended in all conditions of high arterial pressure, notably in gout. The author has achieved brilliant success with this method in a case of nose-bleed in a gouty patient.

ERGOTIN IN PUERPERAL FEVER

Dr. Solt² is enthusiastic in recommending ergotin as a prophylactic and "specific" remedy in puerperal fever. The chief action of the drug is to produce uterine contractions. The soft, flabby organ becomes hard and solid, the lymphatic spaces are narrowed considerably, the blood-vessels

¹ *Rev. de Thérap.*, LXIX, No. 3.

¹ *Dent. med. Woch.*, XXVIII, No. 16.

² *Therap. Monatsh.*, XVI, No. 2.

contract, and the absorption of toxic material is thus lessened to a great extent. Given in small doses, ergotin does not cause tetanic contraction of the uterine muscle. Employed prophylactically, the drug is a reliable preventive of uterine infection from vaginal and perineal tears.

The author has used ergotin for seven years, in about thirty cases of puerperal fever, with most excellent results. After a normal labor, 10-grm. powders of powdered ergot are prescribed, 2 to 3 powders to be taken daily. After an operation, or in case the pulse, temperature, or suppuration on any part of the body excite suspicion, ergot is given according to the following formula:

Ergotin,
Distilled Water, of each, $1\frac{1}{4}$ dr.
Tinct. Amara..... $\frac{1}{2}$ oz.
Ten to twenty drops three times daily.

Or:

Ergotin $1\frac{1}{4}$ dr.
Peppermint Water 4 dr.

Larger doses are undesirable, as they may excite violent uterine action. No untoward effects were observed by the author in his experience. He feels justified in recommending ergotin as a "specific" and gives the treatment of puerperal sepsis in a nutshell—rest and ergotin.

All text-books mention the value of ergot in post-partum hemorrhage. In order to promote uterine contractions still further, the author is in the habit of ordering cool enemata of a normal salt solution, thus replacing the lost fluids to some extent. Even more efficient than enemata of aqueous salt-solutions are rectal injections of fresh milk, containing $\frac{1}{2}$ teaspoonful of salt in a quart. It seems that these rectal injections stimulate the uterus better than vaginal douches.

MANAGEMENT OF THE UMBILICAL CORD

Dr. G. S. Bacon¹ thinks that too little attention is paid to the management of the umbilical cord, and that this neglect is the cause of suppuration, infection, fever, etc. He believes the cord should be treated according to strict surgical rules. One of the main objects is the mummification of the cord, and this is best accomplished by dressing with alcohol.

He thus outlines the details of his plan: When the cord ceases to beat, it is tied about 2 inches from the body with a sterile tape, the vessels are emptied out toward the placenta by the pressure of the thumb and forefinger of the left hand, and then the cord is held by the thumb and finger about 1 inch away from the ligature. The cord is then cut with a sterile scissors and the placental

end dropped. After the child is separated from the mother, the body is wrapped well in a sterile towel so that the cord cannot become contaminated. Then it is laid away until the mother is cared for. We then attend to the child. The nurse having prepared the room for the baby's bath, by securing a temperature of about 90° F., having in readiness the bath, clothes, alcohol, cotton or gauze, scissors, artery forceps, and ligature, takes the baby on her lap and holds down the arms and legs with clean towels. The towel is unwrapped from around the cord and with a medium-sized silk ligature the cord is *retied* at its base or the junction of the skin and amniotic sheath. He then carefully cuts off the cord $\frac{1}{12}$ or $\frac{1}{8}$ inch beyond the ligature. If the cord was quite thick, or if there is any sign of bleeding from the vessels, or if there is any doubt of the security of the ligature, after careful inspection the cord is enclosed once more with the ligature. The ends are then cut off rather short, and a large sponge of cotton saturated with alcohol is placed on the navel. This is kept in place by the nurse while she oils the child to remove the sebum, and then it is placed on its back in the tub that is only partly filled with water or the child is washed with a sponge. After the bath, fresh alcohol is placed on the navel while the child is being dried and measured. Then a dry sterile pad of gauze or cotton is placed over the navel and the usual bandage applied. This pad stays in place till the next dressing of the child. As a rule, the child is bathed and the navel attended to every twenty-four hours. At the subsequent dressings a cotton sponge saturated with alcohol is applied before the bathing and also afterwards. Then a dry dressing is used. The ligature disappears with the thin dry remnants of cord above in the funnel of the navel, and is never seen until it comes off on the third to the sixth day.

POTASSIUM PERMANGANATE IN BURNS

According to Dr. L. Kharitonov,¹ potassium permanganate is a very efficacious application for burns. Among other advantages, it possesses the one of non-toxicity, which renders its use safe even in extensive burns, when bismuth or iodoform would be dangerous. The drug is applied in the form of a saturated solution. In contact with the tissues, potassium permanganate is decomposed, and forms caustic potash [?] and manganese dioxide. To the former the anesthetic effect of the application may be due, while the latter insures asepsis of the wound.

¹ Jour. Amer. Med. Assoc., 1902, No. 17.

¹ La Sem. méd., xxii, No. 13.

GOLD CHLORIDE IN LOCAL TUBERCULOSIS

Dr. G. Brié¹ has employed gold chloride in local tuberculous affections, notably in cold abscesses and non-suppurating adenitis. A solution is prepared, containing 16 grn. of gold chloride in 2 oz. of distilled water. From 0.25 to 1 Cc. (4 to 16 min.) of this solution is injected into the diseased tissue, once to twice weekly. The results obtained were encouraging. In adenitis, the tuberculous process came to a standstill after about 12 injections. Cold abscesses underwent a liquefaction of their pus, and finally a fibrous transformation took place, ending in cure after 15 to 20 injections. No local reaction interfered with the method. In tuberculous laryngitis the gold chloride does not seem to possess any advantages over the usual topical remedies.

A CASE OF ATROPINE POISONING WITH HIGH TEMPERATURE—RECOVERY

Dr. L. L. Beehler² gives an interesting case of atropine poisoning with unusual features. The patient was a neurotic female, aged twenty-five, and developing melancholia. She swallowed 3 grains of atropine sulphate dissolved in 4 ounces of water, which had been given her by an oculist to be instilled into the eyes. She was seen in less than twenty minutes after taking the drug. The pulse was thready and could not be counted; $\frac{1}{40}$ grn. of strychnine was given hypodermically, and the dose was repeated in fifteen minutes. Apomorphine, $\frac{1}{10}$ grn. repeated in fifteen minutes, gave no result; in thirty minutes another dose of $\frac{1}{8}$ grn. was given, with no result; 20 grn. of copper sulphate failed to produce any effect. A stomach-tube was tried, but could not be passed, on account of constriction, which held the tube after striking the pharynx. Pilocarpine, the reputed physiological antidote to atropine, also failed to produce any desired effect. At 8 P.M., about half an hour after the ingestion of the poison the pulse was 160; patient was wrapped in hot towels, but diaphoresis could not be induced. At 9 o'clock the pulse was 152, axillary temperature 105° , which rose to 106° F. in about an hour. Apomorphine, $\frac{1}{4}$ grn., was again administered, but with no result. At this time the peculiar belladonna rash appeared—which lasted for three days. At about 11 o'clock the temperature dropped to 103.5° . Patient was at that time catheterized, and atropine was found in the urine. One drop of the urine dropped into the eye of the household cat produced mydriasis in

five minutes. In a few hours the patient began to regain consciousness, and in about twelve hours after the ingestion of the drug the temperature was normal, pulse 108, respirations 24 per minute. The improvement was rapid. The pupils resumed their normal size, reaction to light and accommodation in sixteen days after the ingestion of the drug. The author believes that the strychnine had a good deal to do with the patient's recovery on account of its cardio-tonic action.

IODIPIN IN ASTHMA AND VARIOUS FORMS OF TUBERCULOSIS

Dr. Max M. Klar,¹ physician to the Sanatorium for Consumptives in Schömburg, Württemberg, under the direction of Dr. Schroeder, reviews the voluminous literature of iodipin, and reports in detail five cases of his own in which the action of this new iodine compound was remarkably satisfactory:

Case I was a woman of eighteen, who from the time she was six years old had been suffering from bronchial asthma, with abundant expectoration; towards the end of an attack there was generally some blood in the sputum. The attacks recurred almost every month. The patient had taken arsenic, tar, atropine, potassium iodide, etc., for long periods without the least results. In the summer of 1899 the iodipin treatment was instituted, and hygienic and dietetic measures were not neglected. She took three to four teaspoonfuls of 10 per cent. iodipin daily. The patient gained fifteen pounds in weight. During the treatment with iodipin, and for two months after its discontinuance, she had no asthmatic attacks. Late in the fall of 1899 the attacks returned and the patient resumed the iodipin. In the summer of 1900 the attacks again returned, but were much shorter in duration and much milder in character. After this the patient had no attacks whatsoever.

It is thus seen that this severe case of asthma which had lasted uninterruptedly for eleven years, resisting all methods of treatment, began to improve only under iodipin. The author believes that this remedy has produced and will produce, if continued, not only a temporary improvement, but a permanent cure.

Case II was one of laryngeal trouble complicated with chronic atrophic pharyngitis, chronic rhinitis, asthma, and dyspnea. Several years previously the patient had been treated with lactic acid. Under iodipin the asthmatic attacks ceased altogether, and the cough and expectoration became much improved.

Case III was one of tuberculosis and syphilis combined, with ulcers in the larynx, thickening of the vocal cords, etc.; and

Case IV was one of pulmonary tuberculosis of long standing, with also a suspicion of syphilis. In both cases, iodipin produced excellent results both in the local condition and in the general symptoms. In Case III the laryngeal trouble

¹*La Sem. méd.*, XXII, No. 17.

²*Jour. Amer. Med. Assoc.*, XXXVIII, No. 17.

¹*Deut. med. Zeit.*, 1900, No. 97.

was also treated locally with a solution of menthol in oil.

Case V was also one of tuberculosis with tubercular indurations in the larynx. The larynx had been curetted and cauterized with lactic acid a number of times, with results which were only partly satisfactory. The swellings were so hard that but very small portions could be removed with the curet at a sitting. It was finally decided to try iodipin. For several weeks two teaspoonfuls of 10 per cent. iodipin were administered daily; later on the patient took the 25 per cent. iodipin in capsules of 15 min. each. In all the patient used 6 oz. of the 10 per cent. iodipin, and 4 oz. of the 25 per cent. preparation. The favorable effect on the laryngeal indurations was unmistakable. The posterior wall became smooth, the infiltration of the vocal cords and the excrescences disappeared, and the voice became much clearer.

In conclusion the author says: "We can recommend iodipin in all cases where iodine preparations are indicated, especially as an antisyphilitic, antiasthmatic, and resorbent in tubercular indurations. It has also a diagnostic value in determining the motility of the stomach.

Dr. G. Demetriade¹ also speaks favorably of iodipin in asthma, bronchitis, pleurisy, and tuberculosis, as well as in tertiary syphilis.

THE TREATMENT OF LARYNGEAL TUBERCULOSIS

This is far from being a grateful task, in spite of the innumerable remedies which have been and constantly are being recommended as infallible, states Dr. E. von Tóvölgyi.² One of the oldest modes of treating laryngeal tuberculosis is the insufflation of powders. At the present day this procedure has somewhat fallen into disuse, and is resorted to only in far advanced stages of laryngeal disease, when other, more energetic, measures are out of place. This disrepute into which insufflation has fallen is not altogether undeserved. No tangible benefit can accrue from covering the ulcers and nodules with powders, and in early stages of laryngeal involvement insufflation often does great harm by nourishing false hopes and usurping the province of more reliable procedures. Insufflation is at best an adjuvant to other treatment. When employed for the purpose of anesthetizing the larynx, as in dysphagia, the method is productive of good, and in this connection orthoform deserves decided preference to cocaine, being non-toxic and more lasting in its action. Besides, it has some antiseptic value.

Local applications by means of the brush constitute another favorite method of treat-

ment, and many remedies are used for this purpose.

Formaldehyde, in 2 to 10-per-cent. solutions, has been warmly praised, but the author found it to be a disappointing remedy. The same can be said of orthoform oil (25 parts of orthoform to 150 parts of olive oil). Its healing virtues have certainly been exaggerated. The oil produces a marked anesthetic effect, however, owing to the orthoform, and is thus of some utility in the dysphagia of tuberculosis.

Three other newer remedies, paramonochlorphenol-glycerin, monochlorphenol-glycerin, and balsam of Peru, the author has employed only to discover their worthlessness.

On the other hand, he speaks warmly of phenol-sodium sulphurinate. This compound contains castor oil, which favors the uniform distribution of the remedy over diseased laryngeal tissues and protects the healthy cells from the action of the phenol. The latter may be supposed to kill the accessible tubercle bacilli and the bacteria of suppuration. The employment of the remedy is similar to that of lactic acid, and is more convenient, as the preparatory anesthetization of the larynx is not necessary. The drug is no specific, but its action is very beneficial. It reduces the tuberculous infiltrations, combats the inflammation, and favorably influences the dysphagia.

Menthol is another highly recommended remedy, but the author can find no great praise for it. Recently a combination of menthol and orthoform has been lauded for the dysphagia and harassing cough:

| | |
|----------------------|-----------|
| Menthol..... | 2 oz. |
| Volk of Egg..... | 1 oz. |
| Orthoform..... | 1/2 oz. |
| Distilled Water..... | 3 1/2 oz. |

To be injected into the larynx.

This combination may have some value as a palliative measure.

More effectual than the applications is operative treatment of laryngeal tuberculosis. The author thinks little of electrolysis, reserving it only for cases showing such diffuse infiltration that curetting is out of place. The latter operation has numerous enthusiastic followers, but also many enemies. Performed under cocaine anesthesia, it is not painful and the hemorrhage is insignificant. The results of laryngeal curettage have been very encouraging.

Generally speaking, the author advises the use of any one method only so long as it produces unquestionable good. When it ceases to benefit the patient, another plan of treatment should supplant it. He is in favor of energetic interference early in the

¹ *Klin.-therap. Woch.*, 1901, No. 27.

² *Therap. d. Gegenw.*, March, 1902.

disease. If cure is at all possible, it can only be accomplished by commencing sufficiently early. It is, therefore, wrong to waste valuable time on insufflations and weak solutions, when we possess strong remedies in lactic acid, phenol-sodium sulphuricinate, and curettage.

In cases with a universal involvement of the larynx, the latter procedure is contraindicated, and we must rely on drugs exclusively, alternating them and suiting the remedy to the symptomatic requirements. In treating the disease medicinally, the author found it best to alternate the remedies: first, phenol-sodium sulphuricinate, then lactic acid, menthol, etc. In dysphagia, orthoform-oil deserves preference.

THIOCOL IN PNEUMONIA

The antiseptic method of treatment in pneumonia seems to be gaining ground. Excellent results have been repeatedly obtained from the use of creosote and its derivatives. Dr. M. Ebersohn¹ uses thiocol instead of creosote carbonate and the other older preparations of creosote. The dose of thiocol is 8 grn. in twenty-four hours for children under one year; 16 to 24 grn. for those between one and three years; up to 1 dram for children of ten, and 75 grn. for adults in twenty-four hours. The following combination is recommended:

Infusion Senega.....
45 grn. to 2½ oz. of water.
 Liquor Ammonii Anisatus....15 min.
 Thiocol.....15 grn.
 Syrup Orange Peel, to make.. 3 oz.

Teaspoonful every hour for a child of two.

The effects were surprising. Often the crisis occurred in twenty-four hours, and never later than seventy-two hours after the beginning of this medication. No symptoms of intolerance were observed. No antipyretics were administered in any of the eleven cases successfully treated by the author with this method.

SOLANUM CAROLINENSE IN EPILEPSY

Solanum Carolinense is a member of the nightshade family, and is known under various names: horse-nettle, sand-brier, poisonous potato, etc. A detailed investigation into its chemical and medicinal properties has been made by Dr. Clayton Thrush,² with the following results:

All parts of the plant were found to contain two alkaloids, solanine and solanidine. The fruit contains the largest amount of these active principles, and is therefore

therapeutically more efficient than the roots or leaves.

For internal administration, the fluid and solid extracts of the drug are the most suitable forms.

As to the medicinal virtues of the poisonous potato, it has been used for years by negroes in the treatment of epilepsy. Scientific experiments have now verified the excellent results claimed by the original employers. Not in epilepsy alone, but in hysterical convulsions, in eclampsia, in Bright's disease, in chorea, and in other convulsive manifestations its use has been attended with uniform success. It has furthermore proved efficient in controlling hemorrhages, notably uterine bleeding. In order to obtain success, the remedy should be given until its full constitutional effects are manifest, these being drowsiness and stupor.

Solanine is also a most potent analgesic, and thus a welcome substitute for morphine in neuralgic affections, in gastric pains of varied origin, in pain accompanying convulsive phenomena, etc. The chief value of solanine, however, lies in its almost specific influence over epileptic convulsions, especially in grand mal, less notably in petit mal. The advantages of a vegetable depressomotor over the mineral salts are great, since the latter may lead to an extensive destruction of blood-corpuscles and thus undermine the general powers of the organism.

In the treatment of epilepsy the new remedy should be given in the form of its fluid extract, gradually reaching the maximum dosage, and maintaining this over a period of several months up to a year and more. The initial dose may be 1 dram of the fluid extract.

DIGITALIS AND ERGOT IN PNEUMONIA

Dr. S. J. Harris¹ thus outlines his treatment of pneumonia. When called to a case of pneumonia not advanced beyond the first stage, he commences with ½ grn. of calomel every half hour or hour, until the bowels move. He also gives, if the patient is an adult, 20 drops of fluid extract of ergot and 10 drops of tincture of digitalis every three hours. If the temperature is high he orders a sponge bath with cool or tepid water. After the bowels have moved, if the fever keeps up and the patient is nervous and restless, he administers every three or four hours the following combination:

Dover's Powder.....2 to 3 grn.
 Salol.....3 grn.
 Acetanilid.....2 grn.

¹ *Aerzt. Centr.-Zeit.*, 1902, No. 8.

² *Phila. Med. Jour.*, IX, No. 18.

¹ *Med. World*, XX, No. 3.

If the patient has lived in a malarial district or has been the subject of malarial disease, he adds 1 or 2 grn. of quinine sulphate to the above combination. The author lays special emphasis on the ergot and digitalis; he treated six or seven cases within two months, and not one of the cases reached the second stage of the disease.

THE TREATMENT OF DYSENTERY

The etiological significance of the ameba coli in the production of dysentery is well-recognized, states Dr. T. S. Dabney.¹ It should also be borne in mind, however, that, especially in the tropics, malaria and intestinal parasites, notably the ankylostomum duodenale, tenia and ascarides, often complicate and disguise dysentery. In such cases, treatment directed against the latter disease alone will necessarily remain unsuccessful. The addition of quinine or the anthelmintics to the usual remedies will frequently effect a cure in these complicated cases.

The author has cured several very obstinate cases of dysentery by administering anthelmintics, after all other remedies had failed. Two or three doses of thymol, 30 to 40 grn. each, suffice, as a rule. This treatment should always be preceded by a saline purge, and followed by several high saline enemata, in order to kill and remove the ova and larvæ from the rectum.

The treatment of dysentery is outlined by the author as follows: The patient is put to bed in a well-ventilated room, and is comfortably covered. A saline mixture is prescribed, according to this formula:

Morphine Sulphate, . . . $\frac{1}{2}$ to 1 grn.
Sodium Sulphate, 1 oz.
Dilute Sulphuric Acid, 1 to $1\frac{1}{2}$ dr.
Cinnamon Water, to make, 4 oz.

Tablespoonful in 2 oz. of cool water every three hours.

This medication is persisted in until the discharges lose their bloody character and become feculent. Magnesium sulphate is employed by many, but the author prefers the sodium salt, chiefly on account of its stimulating action on the liver. The addition of sulphuric acid renders the intestinal contents less alkaline and thus less suitable for bacterial development. When the stools assume a feculent character, bismuth subnitrate is given in doses of 15 to 30 grn. every three to four hours, or salol in 5-grn. doses every three to four hours.

As to the favorite treatment with ipecac, there are several reasons which account for its falling into disuse: the drug is unreliable, it is nauseating, and good results have

been obtained from the salines. The value of ipecac is, however, unquestionable. Great care must be taken to procure the fresh drug, as powdered ipecac rapidly deteriorates in warm countries. The routine method is to place the patient in the recumbent position, keep his stomach empty, then order 30 drops of laudanum half an hour before the bolus of 30 to 60 grn. of ipecac is administered. A sinapism is applied over the epigastrium. The dose is repeated every four to six hours, and this medication continued for twenty-four to forty-eight hours. Often this treatment will succeed after the salines have failed, and *vice versa*.

Strict attention should be paid to the diet. As soon as the patient's powers flag, he must be generously nourished with roastbeef, mutton, fish, eggs, red wine, etc. As a drink, a glass of water with 10 to 15 drops of dilute nitrohydrochloric acid is agreeable, and useful in stimulating the hepatic function and retarding the growth of bacteria.

When the disease becomes subacute or chronic, silver nitrate is an efficient remedy. It may be given as follows:

Silver Nitrate, 20 grn.
Fuller's Earth, to make, 30 pills

One pill twice daily an hour before or after meals.

During this medication, salt or food containing it should be avoided. The prescription is not to be repeated. If it fails, the topical application of silver nitrate is indicated:

Silver Nitrate, $\frac{1}{2}$ dr.
Distilled Water, 2 pints

This is injected high up the bowel, and the enema repeated, not oftener than every twenty-four hours, however. No ill-effects need be feared.

But by far the best results in serious cases of dysentery are obtained by a change from a tropical climate to a cool one.

The liver must be constantly watched in all cases of dysentery. In acute and subacute hepatitis, baths medicated with nitrohydrochloric acid are advantageously ordered night and morning: Nitrohydrochloric acid (strong) 1 oz., and warm water, 12 to 16 pints. Place feet in this bath, and sponge legs, thighs, and the region of the liver for fifteen minutes. If the bath "bites" too much, add more water.

The advent of suppurating hepatitis, as indicated by chills, intermittent fever, and pain, indicates surgical interference.

Prophylaxis should be the main reliance, after all, and consists in the use of pure water, in a suitable diet, in keeping regular hours, and cultivating moderate habits.

¹ *Therap. Gaz.*, xxvi, No. 4.

ACTIVE PRINCIPLE OF GUAIAECUM WOOD

Dr. E. Schafer¹ has found that the anti-syphilitic, diaphoretic, antiarthritic, and emetic properties of guaiac depend solely upon the saponin, which is most abundant in the bark, less so in the outer part of the wood, still less in the medulla, and least of all, yet in appreciable amounts, in the resin. The fact that the decoction of the wood contains the most saponin of all galenical preparations, and has been found to be the most active preparation for centuries, seems to support this theory, as do also the recent observations that other ingredients, such as guaiaconic acid, have no effect in syphilis. The author recommends that the saponin of the bark and wood be isolated in pure form, that they be compared with each other and other known forms of saponin, and that they be tried pure in the various affections for which guaiac is known to be valuable.

TREATMENT OF EPILEPSY

Dr. Wm. P. Spratling,² medical superintendent of the Craig Colony for Epileptics, says that the treatment must vary to meet individual requirements, and to do this we group it under four heads: medical, surgical, dietetic, and moral. The first three may be employed successfully by every physician, and so may the fourth, provided the patient is so placed as to be under the physician's full control.

The first thing a patient looks for is a reduction in the frequency and severity of the attacks, and we can gratify him best in this respect by putting him on some anti-spasmodic. Camphor, opium and its derivatives, belladonna, and valerian may be mentioned among these. The opium-bromide treatment of Fleschig, popular a few years ago, is valuable in some cases. It consists in the administration of opium for six weeks, beginning with $\frac{1}{2}$ to 1 grn. three times a day, increasing up to 10 to 15 grn. a day, when it is suddenly stopped, and bromide given in doses of 90 to 120 grn. a day. Codeine may be substituted for opium. Bechterew used the bromides in conjunction with *adonis vernalis* with gratifying results, finding the latter better than *digitalis*, which it resembles. Simulo, a South American plant of the hyssop family, has been found useful in certain cases. It is given in the form of the tincture, 1 to 2 drams at a dose.

Bromipin, a brominized oil of sesamum, has lately come into use and is a good substitute for the bromides. It is a heavy oil and in some cases may be found difficult of

digestion. It is best given in the form of an emulsion, which makes it more palatable and which is prepared as follows:

| | |
|-------------------------------|--------|
| Bromipin..... | 4 oz. |
| Simple Syrup..... | 4 oz. |
| Spt. Peppermint..... | 4 dr. |
| Mucilage Acacia, to make..... | 16 oz. |

One to two or three tablespoonfuls three times a day, an hour or so after meals.

[A still better formula is the following:

| | |
|--------------------------|----------|
| Bromipin..... | 3 oz. |
| Yolks of Egg..... | No. 2 |
| Menhol..... | 2½ grn. |
| (or, Spt. Peppermint.... | 30 min.) |
| Brandy..... | ½ oz. |

Tablespoonful three times a day.

This is quite palatable, the yolk of egg makes it more nutritious and the necessity is obviated of taking in a lot of inert matter, such as syrup and mucilage. The cost of such an emulsion is also less. The brandy may be left out, if desired. As to the stability of such an emulsion, we have had on our desk a 4-oz. bottle for over five months, and it is still fresh and non-separated.—EDITOR.]

The advantages of bromipin, the author says, are many. It does not produce the disfiguring bromic acne and, given in the form of an emulsion, it is nutritious, generally increasing the weight, making it especially valuable in feeble and asthenic cases. It may be used hypodermically in status patients, without producing local abscess like that following the hypodermic use of the bromide salts.

If the bromide salts are used better results will be gotten by the hypochlorization method, *i. e.*, withdrawing all sodium chloride from the patient's food and salting it with sodium bromide. By this you will greatly enhance the action of the bromide, 10 or 15 grn. of the sodium salt given in this way being equal to 30 or 40 grn. given in the ordinary manner.

In status patients, the best formula for stopping the attacks is the following:

| | |
|------------------------------|---------|
| Potassium Bromide..... | 2 oz. |
| Chloral Hydrate..... | 5 dr. |
| Morphine Sulphate..... | 2 grn. |
| Tinet. Deodorized Opium..... | 60 min. |
| Water to make..... | 16 oz. |

Give the patient 1 oz. after he has had six attacks in rapid succession. If the first dose is not effective, it may be repeated in two hours.

The epilepsies due to self-intoxication call for special treatment, and it is important that we regulate the diet of such patients as promptly as possible, for the intoxication comes from putrefactive changes in the alimentary canal. Beta-naphthol or salol in 5-grn. doses is useful in overcoming conditions of intestinal toxemia. In some cases

¹ *Amer. Jour. Med. Sciences*, May, 1902.

² *Jour. Amer. Med. Assoc.*, May 3, 1902.

the thyroid extract can be used to advantage, and the best results from its use have come from cases in which there were evidences of arrested mental development. The author has seen marked improvement follow its employment in the higher grades of idiocy.

The *dietetic treatment* of epilepsy is no less important than its medical. It would take too much space to specify all the food articles prohibited or allowed, and it must suffice to say that all rich foods, such as pies, pastry, cake, things fried in grease or highly seasoned, as well as pork, veal, and cabbage, should be proscribed, the dietetic principle being that the epileptic should live on the lightest and most nutritious foods obtainable, including milk, eggs, cereals thoroughly cooked, and fruits. Of meats he should eat sparingly, then take beef, lamb, chicken, fish or game, and then only at noon. The evening meal should always be light.

As to the benefits of *surgical intervention*, the author's experience does not enable him to take a very hopeful view. In a study of over forty cases that were trephined, four of which were done at the colony by Dr. E. A. Sharp, second assistant physician, there was no permanent benefit in any case. Some went for several months after the operation without a seizure, but in every case they eventually came back. The chief fault with such operations, when done for injuries to the brain, is that they are delayed too long after the receipt of the injury. In the meantime, the epileptic habit has become firmly established. If the injury is recent and clearly causes the convulsion, operation is indicated. If it is old and there is doubt as to the advantages of an operation, it may be well to operate in some cases any way, both for the temporary benefit the patient may enjoy and for the gratification it will give the patient and his friends. But before doing the operation, every possible effort should be made to exclude heredity as a cause of the disease and to make sure that convulsions did not exist before the infliction of the injury.

The *moral treatment* of the epileptic is urged because he is so often the victim of vitiated stamina, acquired as a heritage, which makes him need a power other than his own to help him overcome his unfortunate condition.

Because of his disease he is exiled from society; denied the acquisition of trades, when his affliction comes in youth; and is kept from the public schools; the use and enjoyment of all of which, for most epileptics and to some degree, is essential for his

welfare. Since his malady denies him the right to make use of all these things, and since, as such things ordinarily exist, they are not in the best form for his use, special institutions, in the way of colonies properly designed and constructed, should be created for him.

Dr. Anton Wassing¹ has obtained excellent results in the treatment of epilepsy with bromipin. He praises the remedy especially in persistent forms of the disease, but in milder types and in the epileptic "equivalents" it is not less valuable. Some cases of infantile convulsions and cases of whooping-cough seemed also to yield to the administration of bromipin.

The author has been led to place high confidence in bromipin, and he recommends its administration in various neurotic conditions.

EFFECT OF DIGESTION ON THE STYPTIC PROPERTIES OF GELATIN

It is very interesting to know whether gelatin taken internally exercises any coagulating effect on the blood, for often it is impracticable to administer gelatin subcutaneously, notwithstanding the styptic efficiency when given in this manner. Dr. H. C. Wood, Jr.,² has experimented with various forms of gelatin and offers the following conclusions:

1. Pepsin digestion of gelatin does not destroy its coagulating effect on the blood.
2. The resulting product is dialyzable, and therefore capable of absorption.
3. The administration of gelatin by the mouth in the treatment of hemorrhage is, therefore, a rational procedure.
4. The products of the digestion of gelatin, called "gelatoses," seem to have the power if given in sufficient quantity, to antagonize the anti-coagulating action of peptone.

THE SALTS OF GOLD

Gold salts have been recommended as alteratives in obstinate syphilis, in chronic skin diseases, in nervous disorders, etc., but in this country the gold salts have attracted but little attention. Dr. John E. Sylvester³ records several favorable cases illustrating the value of these salts. He employed pills containing $\frac{1}{16}$ grn. of chloride of gold and sodium, combined with $\frac{1}{4}$ grn. of extract of aconite, to prevent auric fever. Later, he used tablet triturates of the chloride of gold and sodium, as well as solutions of the bromide of gold and arsenic. The diseases

¹ *Medico*, 1902, No. 12.

² *Amer. Med.*, May 3, 1902.

³ *Med. Age*, xx, No. 8.

treated were: hereditary syphilis, ascites in drunkards, mitral heart-disease, and amenorrhea. Undesirable effects, like auric fever, the author has not seen, with the exception of salivation in an old patient. The therapeutic results were highly gratifying in the cases reported by the author. In locomotor ataxia the good effects reported by others were not observed.

A CONCISE STATEMENT OF THE INDICATIONS AND USES OF ICHTHARGAN

Ichthargan (silver thio-hydrocarburo-sulphonate; ichthyol-silver) contains 30 per cent. of silver, is readily and clearly soluble in warm or cold water and in glycerin; is superior to silver nitrate in bactericidal power, without producing any caustic effect; has great penetrating power and is relatively non-toxic.

It is indicated in the following conditions:

1. In acute, subacute, and chronic gonorrhea: for injections the strength used is 1 part of ichthargan in 3000 parts of water; strength may be increased to 1 in 500. For irrigations, 1 in 5000 to 1 in 2000; for instillations, from 1 to 3-per-cent. solutions.

2. In gynecology: 1 to 5 parts of ichthargan, 5 parts of water and 100 parts of glycerin, for tampons. In puerperal septicemia a 10-per-cent. ichthargan ointment is used by inunction into the thighs.

3. In chancroids: in the beginning, moderate applications of ichthargan powder, then applications of mild ichthargan ointment, or solution.

4. In syphilitic ulcers of the throat: painting with a 2-per-cent. solution, first every other day, then daily.

5. In ozena, diphtheria, otitis media, suppurations of the accessory sinuses: painting and occasional tamponing with a 1 to 2-per-cent. solution.

6. In trachoma and purulent conjunctivitis: painting with a 1 to 3-per-cent. solution; washing with a 1:1000 solution.

7. Gonorrheal conjunctivitis: instillation of a 1 to 2-per-cent. solution, followed by rinsing with sodium chloride solution.

8. In eczema of the scalp in children: application of ichthargan ointment; strength, $\frac{1}{2}$ to 1-per-cent.

9. Erysipelas, anthrax, leg ulcer, malignant ulcers, contusions, arthritis: application of a 1 to 5-per-cent. ointment, or compresses soaked in solutions of similar strength.

10. In phlegmons, furuncles, lymphangitis, pyemia: the rubbing in, with gentle massage, of a 5 to 10-per-cent. ointment, 15 to 45 grn. at a time; first, twice daily, then

once a day. The inunction is to be made into the adjacent healthy, thoroughly cleansed, skin.

11. In gastric and intestinal ulcers: $\frac{1}{2}$ to 2 grn. of ichthargan in 8 oz. of water. Dose: a tablespoonful.

12. It is also being experimented with in various septic processes: septic endocarditis, septicemia, etc., 1 to 2 Cc. of a 1-per-cent. ichthargan solution, injected intravenously.

Formula for making a 1-per-cent. ointment of ichthargan: ichthargan, 3 grn.; distilled water, 2 drops; glycerin, 3 drops; vaselin, enough to make 5 drams. The ichthargan is first dissolved in the water and glycerin, and then incorporated with the vaselin. For a 5-per-cent. ointment the quantities are: Ichthargan 15 grn.; water, 8 drops; glycerin, 15 drops; vaselin, to make 5 drams. For a 10-per-cent. ointment the quantities are: Ichthargan, 30 grn.; water, 15 drops; glycerin, 30 drops; vaselin, to make 5 drams.

IPECAC IN DYSENTERY

The one remedy, says Dr. A. A. Woodhull,¹ which is a specific in dysentery as quinine is in the malarial fevers, is ipecac. Nearly every case of dysentery will yield promptly to ipecac, if administered as follows: The stomach must be empty, and the patient in the recumbent position. Some twenty minutes before exhibiting the ipecac it is advisable to paint the epigastrium with tincture of iodine, or to apply a sinapism, in order to produce gentle counter-irritation.

From 10 to 15 minims of laudanum may be given on the empty stomach, and followed in ten minutes by 15 to 30 grn. or more of ipecac, in pill form or in a paste with a little water. For at least four hours afterward no food or drink should be taken and the recumbent position patiently maintained. If the ipecac is given in pills or capsules, the laudanum may be mixed with it.

The patient should not know what he is taking, on account of the popular association of ipecac with vomiting. He should be instructed to suppress any desire to vomit. The amount of ipecac administered varies with the gravity of the case, just as the dose of opium in colic or of quinine in malaria. Sixty grains is not too much for an adult, though ordinarily 15 to 25 grn. are sufficient. If the dose is rejected in spite of all precautions, it must be repeated.

The usual course of the disease after the

¹ *Therap. Gazette*, XXVI, No. 4.

ipecac treatment is relief of pain, subsidence of fever, and cessation of bloody discharges. The medicine may then be reduced or discontinued.

As to the rationale of the action of ipecac, the author asserts that the drug is not, as commonly thought, a depressant, but a stimulant. It contracts the capillaries, and this fact accounts for its use in bleeding from the nose, the lungs, etc. In dysentery it also causes a contraction of the intestinal capillaries and thus checks the capillary leakage, which is the forerunner of inflammation in this disease.

Among other uses of ipecac may be mentioned its value in delirium tremens, according to authentic reports; its efficiency in the vomiting of pregnancy, and its utility in atonic dyspepsia. It is furthermore employed as a spray in bronchial asthma, and in the variety of cough known as "winter cough." In all these cases it is the nervous stimulation due to ipecac that accounts for its success.

THE INFLUENCE OF OVARIIN IN METABOLISM

Dr. Newmann and Dr. Vas¹ have experimented with ovariin tablets on animals, in order to determine the influence of ovarian extract on metabolism. Experiments were made on healthy animals as well as on castrated ones. It would seem that in certain instances ovarian extract brings about a more active metabolism, but the exact action and the rationale of this particular form of organo-therapy has not as yet been definitely ascertained. Further experiments are being conducted, which may throw more light on the problem.

OIL OF GARLIC IN TUBERCULOSIS

The Roman races are strong believers in the medicinal virtues of garlic. That it is a most remarkable stimulant and expectorant, also diuretic and diaphoretic, cannot be doubted. Dr. L. F. Guerra² has used oil of garlic—which is chemically a sulphide of allyl—in seventeen cases of tuberculosis, and is convinced that it possesses marked anti-tubercular properties, while it is a powerful tonic and stimulant. All of his patients were clinically cured. He followed the directions given by Sejournet with slight modifications, injecting 1 Cc. of the following solution: 1 Gm. each of sulphide of allyl and ether; 20 Gm. of eucalyptol and 100 Gm. of olive oil. The injections were made under the skin of the back or leg, every fourth day, increasing each time by 0.5 Cc.

until the dose of 3 Cc. was reached, and then suspending treatment for a week or two. The sulphide of allyl is eliminated by the lungs; to disguise the disagreeable odor he has the patients rinse the mouth with an aromatic solution before and after eating and on retiring. He says that while it is not a specific, yet the treatment is the most rational of all modern methods on account of its influence on the general health, the appetite, and digestion.

SODIUM SALICYLATE AND ITS USE

Sodium salicylate, says Dr. Homberger,¹ is easily soluble and should not cause any gastric intolerance. The reason of its being so often unacceptable lies in the formation of salicylic acid under the influence of hydrochloric acid in the stomach. To obviate this chemical reaction, we must either accelerate the absorption of sodium salicylate or neutralize the hydrochloric acid. An old and reliable expedient is to add bicarbonate of sodium to the salicylate. Two purposes are thus accomplished: the acid is neutralized and carbonic-acid gas is developed, which stimulates the absorption of the salicylate. The latter should, furthermore, not be given too freely diluted, as this favors its prolonged retention in the stomach. It is also inadvisable to give it at meal-time, as hydrochloric acid is then present in larger percentage. The best time for administration is between meals. Give the drug in a little water, adding an equal part of sodium bicarbonate.

CEREBRIN IN EPILEPSY

Dr. J. F. Kaplan² used cerebrin experimentally in thirteen cases of epilepsy. In not a single case was any improvement noticeable. In two cases the fits became more severe and more frequent. According to the author, cerebrin in epilepsy is not even worthy of further trial.

DIONIN IN VARIOUS AFFECTIONS

Dr. Alfred Kurtz³ experimented with dionin in various pulmonary affections, in gastralgia, and in gastric cancer. In bronchitis, emphysema, and incipient phthisis, the sedative action of dionin and its beneficial influence over the expectoration were well marked. The analgesic virtues of the remedy made it valuable in colicky and gastralgic pains, as well as in gastric cancer.

The dosage used by the author was about $\frac{1}{3}$ grm. in powders or in solution.

¹ *Monatschr. f. Geburtsh. u. Gyn.*, xv.

² *Cron. Med. Mex.*, March, 1902.

¹ *Rev. de Thérap.*, LXIX, No. 7.

² *Mediz. obozrenie*, 1902, No. 4.

³ *Therapie der Gegenwart*, May, 1902.

QUININE AS A HEMOSTATIC AND ANTISEPTIC

Quinine hydrochlorate in a 1- or 2-per-cent. solution, applied by or on a gauze compress or tampon, is recommended by Dr. Marx¹ as an excellent styptic and antiseptic. The hemostatic property resides in the power of quinine salts to agglutinate the red-blood corpuscles, and it is therefore unnecessary to add that it is efficient in parenchymatous bleeding only. No after-effects follow its application. The antiseptic power of quinine in infected wounds is but slight, but in aseptic wounds it stops parenchymatous bleeding absolutely and expedites the healing process very materially.

HYDROCHLORIC ACID IN CHRONIC DIARRHEA

The treatment of idiopathic chronic diarrhea with large doses of hydrochloric acid is advocated by Dr. Maurice Soupault.² This form of diarrhea is not sufficiently well recognized, notwithstanding its frequency. It is an idiopathic form, independent of any important anatomical alteration of the intestine, and independent of any local or general infection or intoxication.

The patient suffering from this affection produces only liquid stools. The disease lasts a few weeks to several years. The composition and the frequency of the discharges vary within wide limits. The evacuations are preceded by colicky pains, which often necessitate immediate resort to the water-closet. Intestinal tympanites accompanies the colic. The stomach is often unaffected; sometimes dyspeptic symptoms are present. In most cases a deficiency of hydrochloric acid can be demonstrated. As to the etiology, it is very probable that the affection owes its origin to a hasty evacuation of the stomach into the intestine. Clinical observation has shown that this rapidity of evacuation exists whenever the gastric secretion is deficient in hydrochloric acid; in other words, when there is a condition of hypochlorhydria or anachlorhydria.

Numerous plans of treatment have been proposed for idiopathic diarrhea, but they are as a rule inefficient, with the exception of hydrochloric acid. This remedy must be given in high doses, from 15 to 35 min. daily of the pure official acid; 10 to 20 drops are prescribed in a glass of sweetened water before meals; or a lemonade is prepared as follows:

Hydrochloric Acid (Pure).....1½ to 2 dr.
Syrup Lemon6 oz.
Water, to make.....1 quart

The doses must, of course, be regulated according to the needs of the patient, taking

the diarrhea as a guide. Once the proper amount has been ascertained, the beneficial effects are sure to appear within a short time, from two to eight days. The colicky pains subside, the stools are reduced in number to 1 to 2 daily, and their consistency approaches the normal. These results are unquestionably due to the hydrochloric acid. Its administration should be continued for a month or longer, to insure a permanent cure.

A careful regulation of the diet, and the exhibition of intestinal antiseptics after meals, are recommended by the author as adjuvants to the specific treatment.

THE USES OF OIL OF TURPENTINE

Dr. Nazaroff¹ has employed turpentine in numerous cases of erysipelas, parotitis, scarlet-fever, and variola. In erysipelas, he makes several light incisions around the diseased area, and bathes inflamed patch and surroundings with pure oil of turpentine. These applications are repeated twice daily. The next morning, if the temperature has not fallen, turpentine is given internally in 15-drop doses in milk, two to three times daily. Prompt arrest of the inflammatory process follows the treatment.

In the other diseases mentioned, the remedy was used internally, in doses of 15 drops, three times daily, with very satisfactory results.

HYOSCINE IN PARALYSIS AGITANS

Dr. Judson S. Bury,² of Manchester, England, states that the chief points of interest in his two cases are: (a) the presence of typical symptoms of paralysis agitans in a brother and a sister; (b) the onset of the symptoms at a comparatively early age, and (c) the improvement following the administration of hyoscine during each of the two periods when it was given. The brother noticed the first symptoms at about the age of thirty-five, the sister at eighteen. Both patients presented the characteristic mask-like attitude, tremors, and other symptoms of paralysis agitans. In both cases the tremor affected the hands and forearms, the feet, and to a slight degree the head. In the man the legs also shook as they lay extended on the bed. The treatment consisted in massage and the administration of hyoscine. The drug was first given hypodermically, the dose being gradually increased from 1/250 to 1/120 grn. once a day. As the larger dose produced nausea, dryness of the mouth, and giddiness, the injections were

¹ *Amer. Jour. Med. Sciences*, CXXIII, No. 5.

² *Rev. de Thérap.*, LXIX, No. 7.

¹ *Rev. de Thérap.*, LXIX, No. 7.

² *Lancet*, No. 4103.

discontinued, and $\frac{1}{150}$ grn. in chloroform water twice daily was administered per os. This dose was gradually increased to $\frac{1}{96}$ grn. No ill-effects were noticed; the patients declared they felt more comfortable, and were less troubled than formerly with flushings and restlessness.

From experience with several other cases the author is inclined to agree with Dr. R. T. Williamson that hyoscine is probably the most useful drug in paralysis agitans, but it is necessary to remember that it is a very powerful drug and must therefore be used with great care. He further states that in his opinion Merck's hyoscine hydrobromate is probably the best preparation to use.

THIOCOL IN TUBERCULOSIS

Dr. Santiago-Maró,¹ professor at the Hospital of Palencio, has used the phosphates of lime, especially the chlorhydrophosphate, glycerophosphate, and thiocol, in treating tuberculosis in children. He prefers thiocol to all other creosote derivatives on account of its non-toxicity, its tastelessness, and its solubility. From $\frac{1}{2}$ to $\frac{3}{4}$ dram of the drug was given daily, in four doses. Of the phosphates, two to three spoonfuls of a 6-per-cent. solution of the chlorhydrophosphate of lime were given daily. The curative effects obtained were very satisfactory, and the author thinks that creosote and its derivatives directly increase the resistance of the tissues.

TREATMENT OF OTITIS MEDIA

One of the recent methods of treating otitis media is Dr. Libby's method of insufflations of acetanilid, which is said by the originator to be very efficient in the purulent chronic otitis media of children. Dr. Urbano Melzi,² of Milan, has employed this treatment, and recommends it as reliable and conservative. He proceeds as follows: The ear is first thoroughly cleansed by wiping all pus away with minute cotton tampons. Thereupon, cotton tampons are soaked in peroxide of hydrogen and carried into the ear canal and, if the perforation is large enough, into the tympanic cavity. If, on the other hand, the perforation is small, the tampon is introduced into the external canal and moved back and forth, imitating the motion of a pump or piston. Some fluid, or at least some oxygen, is thus forced into the middle ear. After this, the ear is carefully dried.

A tampon soaked in a 5-per-cent. solu-

tion of formaldehyde is now introduced, and the walls of the canal and middle ear moistened. The final procedure is the insufflation of finely powdered acetanilid into the tympanic cavity. The external canal is completely filled with the same powder. If the purulent secretion is abundant, the parents are instructed to syringe the canal with a solution of boric acid, as soon as the powder turns yellow from pus admixture. Otherwise, no domestic treatment is ordered. The method requires some technical skill, especially in treating infants, but the time and effort spent are well repaid by the final success.

TREATMENT OF SUMMER DIARRHEA

Dr. Chas. G. Kerley¹ describes the treatment of summer diarrhea, as carried out in the out-patient service of the Babies' Hospital. It is advisable to consider every case of summer diarrhea as dangerous and to institute vigorous treatment accordingly. To begin with, the author orders milk to be discontinued. No milk should be given until the stools become nearly normal, which may not be the case for days and even weeks. In the meantime, cereal waters and gruels are given as substitutes for milk. Barley-water is most generally used, and is prepared by adding two even tablespoonfuls of barley-flour to a pint of water, and boiling for twenty minutes, adding water so as to make 1 pint when cooking is completed. Instead of barley-flour, rice may be used, the boiling then to last three hours.

Mixtures are improvised by adding 1 to 2 oz. of broth to 4 or 5 oz. of barley-water. Half-a-teaspoonful of beef-juice added to a cereal water makes a good food. Brandy and whiskey should not be given to children suffering from summer diarrhea.

Concerning the favorite white-of-egg mixture, the author has come to definite conclusions after an extensive trial, and advises against its use. It affords a soil for bacteria and throws a strain upon the kidneys. Clinical observation has shown that children fed on albumin-water have higher temperatures than those who get cereals only.

Dextrinized gruels are very serviceable in the diets for summer diarrhea, and as much as 4 even tablespoonfuls of dextrinized barley to a pint of water may be given. The feedings of the child are best ordered at two-hourly intervals, and the amounts should approximate the quantity of milk the child had been taking. In addition to the

¹ *Revista de Med. Cir. Pract.*, Jan. 20, 1902.

² *Revue de Thérap.*, LXIX, No. 6.

¹ *N. Y. Med. Jour.*, LXXV, No. 17.

foods, boiled water is allowed for the thirst at any time, and *ad libitum*.

Fever is controlled by sponging with water at 80° F. several times daily.

The return to the milk diet should be gradual and cautious, by adding the milk to the cereal water and increasing the amount of the former as the child begins to tolerate it.

As to medicinal treatment, the author prescribes calomel ($\frac{1}{20}$ grn. to $\frac{1}{10}$ grn. every hour) in cases with vomiting, while castor oil is preferred in acute septic cases, with infrequent stools and without vomiting.

Bismuth subnitrate is given in all cases in doses of not less than 10 grn. every one to two waking hours. Given persistently in this large amount until black stools are produced, it is a most valuable drug.

Irrigation of the colon is a measure not suited to all cases. When a child has ten or twenty loose discharges in twenty-four hours, there is no need of washing the colon. When the stools are infrequent, on the other hand, and show the presence of mucus or blood, colon-washing is indicated. One irrigation in twelve hours is sufficient, as a rule. Various solutions are recommended, but water is the main active agent, and a normal salt solution is as good as any other. It is used luke-warm, or, in high fever, cool and even cold; in subnormal temperatures it is used hot. The fluid is best introduced through a soft rubber catheter attached to a fountain syringe, held 3 to 4 feet above the child's body.

Mothers should be taught the rules of infant-feeding, and they should further be instructed to discontinue the milk diet on the first appearance of gastro-intestinal trouble, giving barley-water as a substitute. A dose of castor-oil is a favorite home remedy, and its employment is perfectly rational, often aiding in cutting short an attack.

UNUSUAL DRUG EFFECTS

Some interesting observations on the untoward by-effects of drugs are reported by Dr. A. W. Dunning.¹ In one case, that of a man affected with multiple neuritis due to lead-poisoning, the patient was making a satisfactory recovery under appropriate treatment, when it occurred to the author to administer potassium iodide, in order to hasten the elimination of the poison. Following the exhibition of the drug, a rapid downward course of the disease became manifest, the neuritic manifestations re-occurred with increased intensity, and death

supervened. The author believes this unfortunate termination to have been due to the too rapid unloading of lead from the viscera, thus throwing it into the blood and facilitating the access of poison to the nerves.

Another case of the author's illustrates the untoward possibilities of digitalis. After the drug had been administered to a woman of forty for six weeks (5 drops of the tincture every four hours), symptoms of profound mental disturbance appeared. At first simulating mere hysterical excitement, the disorder rapidly developed into a violent mania. The drug was immediately discontinued and she recovered promptly.

Toxic effects of arsenic administration are well known. It is claimed by some observers that in neuritic derangements due to arsenic, motor impairment is always secondary to sensory paralysis. The following case affords grounds for a different belief. A young woman was given arsenic in the form of Fowler's solution. She was suffering from an attack of Sydenham's chorea. Through an error the arsenic was continued for a very long period and precipitated an attack of multiple neuritis. The latter set in with symptoms of motor weakness, sensory phenomena following later on.

TURPENTINE IN METRORRHAGIA

The hemostatic properties of the oil of turpentine have been known for a long time. Dr. L. F. Lienevitch¹ employs the drug systematically in the treatment of uterine hemorrhage, proceeding as follows: Having exposed the cervix he passes into it a tampon soaked in solution of carbolic acid (1 part to 3 parts glycerin), and dilates the cervix. A strip of 5 to 10-per-cent. iodoform gauze is then soaked in oil of turpentine and introduced into the uterine cavity. Several hours later, if the patient complains of uterine colic, the packing is removed. As a rule, the bleeding will have been effectually checked by this time. The author never observed any toxic symptoms following his method. On post-partum hemorrhage he has not employed the method, for fear of causing gaseous embolism.

THE TREATMENT OF GONORRHEA

Some interesting observations on this subject are reported by Dr. P. Taenzer.² On several cases of acute gonorrhea which obstinately resisted the local applications of the various remedies, the author decided to try the internal administration of ichthar-

¹ *La Sem. m'd.* XXII, No. 17.

² *Monatsh. f. prakt. Dermatol.*, XXXIV, No.

¹ *St. Paul Med. Jour.*, IV, No. 5.

gan. A tablespoonful of a solution containing 1 grn. in 7 oz. water was ordered every three hours. The success went beyond all expectations, and since then the author inaugurates his treatment of acute gonorrhea in the same manner. After eight to ten days, injections and irrigations, preferably with ichthargan in 1-per-cent. solutions, are resorted to and continued until the disappearance of shreds from the urine.

Chronic gonorrhea is treated by combining dilatation with the usual irrigations. Beginning with medium-sized catheters, according to the caliber of the urethra, the author employs the next larger size at each successive sitting, thus accomplishing gradual dilatation simultaneously with topical treatment.

HYOSCINE HYDROBROMATE AS A CYCLOPLEGIC

According to Dr. C. H. Baker,¹ hyoscine hydrobromate comes nearer being the ideal cycloplegic than any other drug in our possession. It is safe and sure; with the possible exception of homatropine, its effects are the shortest in duration; it is the most prompt in its action; its exhibition consumes the least possible time, as only 1 drop of the solution is required to produce cycloplegia, and its solutions are remarkably stable. The author uses a half-per-cent. solution, of which, as mentioned, 1 drop is instilled. He used it in 2500 to 3000 cases for refracting, and observed no bad effects.

ORGANIC ARSENIC AND PHOSPHORUS IN TUBERCULOSIS

For the phosphaturia of pulmonary tuberculosis, Dr. A. Mounegrat² recommends a combination of sodium cacodylate and nucleinic acid. A solution is prepared, holding 1 grn. of the former and 3 grn. of the latter in each ounce, which is the daily quantity, to be taken in two doses. Excellent results followed this method of treatment. The local as well as the general symptoms showed marked amelioration. The appetite improved, expectoration became non-purulent, and even the bacilli disappeared from the sputum. In the blood, the number of red and white corpuscles was found to be increased, notably the large mononuclear variety of the leucocytes, known for their "toxico-phagic" powers.

THE TREATMENT OF PNEUMONIA IN CHILDREN

Dr. H. L. Shively³ thus outlines his method of treatment: Chief reliance is placed on calomel and a hot mustard bath

in the beginning, and on the continuous administration of creosote until defervescence occurs. The author believes in the abortive virtues of calomel, if given sufficiently early. As many grains may be given as the child is years of age—this single dose to be followed in twelve hours by a saline. A full, hot bath, containing 2 tablespoonfuls of mustard, is given as soon as possible and should last ten to fifteen minutes. It relieves pulmonary congestion and seems to influence the disease favorably.

Creosote is given as follows:

| | |
|--------------------------------|----------|
| Ammonium Iodide..... | 1/2 dr. |
| Strychnine Sulphate..... | 1/4 grn. |
| Beechwood Creosote..... | 20 min. |
| Glycerin..... | 1 oz. |
| Solut. Ammon. Acetate, to make | 4 oz. |

A teaspoonful every two hours, for a child of five.

Hyperpyrexia is controlled by hydrotherapy, either cold sponging or a full bath at 70° to 80° F., repeated whenever the temperature exceeds 104° F. Alcohol is generally required for the heart, and whiskey should be the choice, the amount to be regulated by the fever, pulse, and general condition. Signs of a flagging right heart (weak second sound) call for nitroglycerin. In sudden cardiac failure hot enemata of normal salt solution are valuable. Digitalis is of little value in pneumonia. The diet should be fluid, consisting mainly of milk. Water is given freely, to assist in flushing the kidneys. No opium and generally no internal antipyretics are used.

During convalescence, treatment consists of tonics like wine, iron, cod-liver oil, etc.

DIONIN IN CORNEAL OPACITIES

The peculiar action of dionin on the conjunctival membrane has been quite extensively utilized in ophthalmological practice. The drug produces a marked conjunctival edema, which is due to its lymphagogue virtues. The increased quantity of lymph aids in carrying away the products of inflammation and explains the therapeutic success of dionin in various eye diseases.

Dr. G. Vajda⁴ reports the results of his experience with dionin in corneal opacities. The beneficial action of the remedy varies according to the dimensions of the opacity and its depth. The application of dionin for three or four days is indicated in all varieties of the disorder. A more persistent use of it rarely leads to success. It may, however, be employed over longer periods in interstitial keratitis, best in the form of a 5-per-cent. ointment with yellow oxide of mercury, to be used at bedtime.

¹ *Jour. Amer. Med. Assoc.*, May 3, 1902.

² *La Sem. méd.*, XXII, No. 13.

³ *N. Y. Med. Jour.*, LXXV, No. 17.

⁴ *Orvosi Hetilap*, XLV, No. 52.

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JUNE, 1902

EDITOR'S NOTES

How Long Has Arsenic Been Known as a Remedy for Malaria?

At least nine out of every ten physicians are under the impression that arsenic as an antiperiodic is of comparatively recent therapeutic introduction. As a matter of fact, various combinations of arsenic were recommended and used in malaria long before cinchona was known (by Europeans) or thought of. It is about three hundred years since Melchior Friccius praised the drug as a remedy in intermittent fevers. He wrote: "Experientia nos docebit arsenicum in febribus intermittentibus adhibitum, omnes eas dotes possidere quibus optima remedia prædida esse debent." And it was in 1786 that Fowler published his successful results with Fowler's solution as a febrifuge.

* *

The "Harmless" Nature of Measles

It is wellnigh a hopeless task to uproot some ideas and beliefs which have succeeded in gaining currency among the people. The people are convinced that measles is too trivial an affection to be dignified with the name disease, and they therefore consider all treatment superfluous. After the rash has disappeared, the trouble is considered as over, and no further attention is usually paid to the child. But on studying the mortality tables issued by the Board of Health we encounter some very curious facts and figures. The report for the quarter ending March 31, 1902, issued by the

New York Department of Health, is now before us. The influenza this year was of a mild character, there being fewer deaths, by 609, directly attributable to it than in the first quarter of 1901. From past experience we had a right to expect a corresponding decrease in the number of deaths from diseases of the respiratory tract. As a matter of fact, there were 344 more deaths from pneumonia and acute bronchitis in the first quarter of 1902 than in the corresponding quarter of 1901; but on looking further we see that this increase in deaths is confined *entirely* to children under five years of age, and these diseases were the direct sequelæ of an epidemic of measles. The number of deaths during January, February, and March caused by the measles directly was 349, almost as many as were caused by scarlet fever (356). This is a pretty respectable mortality for a harmless disease.

* *

Urea as a Diuretic

WHEN Klemperer, but a few short years ago, brought forward urea as a remedy in dropsy on account of its diuretic effects, it was considered as something entirely new. In a little "Manual of the Practice of Medicine," by T. H. Tanner, M.D., F.L.S., published in 1858, we find the following formula taken from the *Medical Times and Gazette* for May, 1852:

| | |
|-------------|--------|
| Ureæ..... | gr. xv |
| Syrupi..... | 7 i |
| Aquæ..... | 3 i |

Misce, fiat haustus omnibus sextis horis sumendus.

Recommended by the author as a diuretic in cases of cardiac dropsy. All of which tends further to corroborate the truth of the old saying that there is nothing new under the sun.

* *

Is Syphilis the Sole Cause of Locomotor Ataxia?

We believe in *studying* authorities, but not in slavishly following them. To the thinking man, his own personal experience and observations will forever serve as the supreme guide and authority. A man may be a genius and right in 99 things out of every 100, but utterly wrong in the one. As a curious example, we recollect that Liebig to the very end of his life refused to believe that germs had anything to do with fermentation, and he therefore looked with contempt on all the experiments of Pasteur. As students in this country, we were taught that syphilis was the principal cause of locomotor ataxia; in Germany we were further taught that syphilis was practically the only cause. All other etiological factors might be disregarded. If the pa-

tient positively and obstinately denies any specific history—why, he either lies or the disease was so mild that he overlooked it (!). So we were taught, and so we believed—until we met with some cases, where the history of syphilis could be excluded with positiveness, to our satisfaction, at least. We gradually came to believe that syphilis is only one of the factors and probably not the most important one, either. In an editor's note on the treatment of the disease (September, 1901) we wrote among other things: "Where there is a specific history, mercury and the iodides generally prove very beneficial; but that each case of locomotor ataxia is etiologically connected with syphilis, we are very far from believing—the dicta of Erb, Strümpel, and other authorities notwithstanding." We are pleased to find strong testimony, though of a negative character, in support of our position. Dr. Matignon, for many years physician in Pekin, sent a communication on the subject to the Paris Academy of Medicine, which was read by Dr. Laveran (*Bulletin de l'Académie de Médecine*, 1902, No. 1). In the communication Dr. Matignon says that in his many years of hospital practice he was struck by the fact that syphilis was very frequent among the Chinese, while locomotor ataxia was equally rare. We are not warranted in assuming that the specific disease in the Chinese is of a different type; the conclusion, therefore, is justified that the causative relation between lues and tabes dorsalis is not very great.

* * *

The Shame of "Christian Science"

If there is a condition where prompt medical interference can show brilliant, sometimes magical, results, even in the most desperate cases, it is uterine hemorrhage during or after labor. In an exchange that has just reached us we read as follows:

"Mrs. J. M. Kanoff, of Creston, Iowa, died of hemorrhage in childbirth, pleading for medical aid, which was denied her by her Christian Scientist mother. The baby also died."

The shame and the pity of it! How long will such outrages continue to be perpetrated on defenseless victims?

* * *

Were the X-Rays Known More Than Half a Century Ago?

A QUOTATION in the *American Electrotherapeutic and X-Ray Era* for March, taken from the *Wiener Zeitschrift für Kunst, Literatur, Theater, und Mode* for November 23, 1846, p. 938, should prove of curious interest to our readers. It is

entitled "The Human Body Transparent," and runs as follows:

"The Greek physiologist Eseltja has, according to the *Athenaeum*, made the announcement that he has succeeded, with the aid of the electric light, in seeing through the human body. He asserts that he has watched the disease processes in the intestines, also the digestive process, the circulation of the blood and the movement of the nerves. If this 'Anthroposcope,' as he calls it, is more than a cheap advertisement, the old proverb, which says that no one can see into the heart of man, has been set at naught."

* * *

Record Case of the Survival of a Premature Infant

DR. H. R. MONSELL thinks that his case establishes a record, and we think he is right. Some twelve years ago he delivered a patient of a premature (6½ months old) female child, weighing 18 oz. This "small particle" of humanity was not dressed for the first three months, but was wrapped in cotton wool and had cod-liver oil rubbed every day over the abdomen and chest. No incubator was used. The child is now strong and healthy, though somewhat stunted in growth, and has a particularly fine crop of black hair.

* * *

A Peculiar Cause of Intestinal Obstruction

DR. GODFREY WARNER, of London, was called to see a dentist in his neighborhood, and on arrival found him dead. The history was simply that the night previous he was taken ill with colic. The autopsy showed all the organs normal; but about midway between the duodenum and large intestine there was an obstruction in the shape of a hard foreign body. On examination it was found to be a molar tooth encysted in a membrane, which had become attached to the inner wall of the gut. It was a natural tooth and had evidently been there for a long time.

* * *

Grains of Wisdom

Do you know that peroxide of hydrogen applications are very useful in chilblains? For children, dilute with one to six parts of warm water; if the skin is off and surface raw and ulcerated, dilute with equal volume of saturated solution of borax, to neutralize acidity of peroxide.

WHENEVER you have a case of dropsy, think of apocynum cannabinum, ten to twenty drops of a good fluid extract three to five times a day. Its action in some cases is truly gratifying.

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

To Sterilize Solutions of Atropine and Cocaine

Dr. J. B. R. asks how he can sterilize and keep sterile solutions of various alkaloids for use in the eye. He heard that by boiling solutions of atropine and cocaine, the alkaloids are spoiled and lose their strength.

Dr. Sidler made investigations on this very subject. He found that solutions of atropine and cocaine sterilized by heat are chemically changed and rendered useless; and even after sterilization they become very easily re-infected. He examined forty-seven such solutions, and found various organisms present, including the streptococcus pyogenes, staphylococci, various diplococci, and moulds. Such organisms are communicated to the solutions by touching the lids and lashes with the pipette, and also by the drops coming in contact with the usually narrow neck of the bottles used. After a trial of various antiseptics, he found a 45-per-cent. alcohol the most satisfactory. Solutions of 3 Gm. of atropine or cocaine in 20 Gm. of 45-per-cent. alcohol remained sterile for a year, and the chemical composition of the alkaloids was unchanged. The solutions were kept in a sterilized bottle with graduated pipette, and the desired strength obtained by dilution with the requisite amount of sterile water.

Most Effective of the New Organic Silver Combinations in Urethritis, Prostatorrhea, etc.

Dr. C. B. H. writes: Will you kindly state which one of the new organic silver combinations—protargol, ichthargan, argentamine, largin, etc.—has proved most efficient in protracted cases of chronic posterior urethritis, prostatorrhea, etc.? Also the strength of solution that has proved most effective in the treatment of such cases (by injection). The quantity instilled would, I presume, depend somewhat upon the strength of the solution, from a few drops to a couple of cubic centimeters. Is it definitely known whether contact with organic matter—the long, rubber nozzle of a Gross' syringe, for example—exerts any deleterious effect upon solutions of the silver combinations mentioned above? If so, would a silver catheter be preferable?

Of the four compounds mentioned, protargol and ichthargan are the ones most used at present—the only ones that may be said to have become standard remedies in the treatment of the various forms of gonorrhea. The strength of protargol solu-

tions varies from $\frac{1}{4}$ to 2 per cent.; the strength of ichthargan in its different uses will be found in an article in this issue, page 246. The chemicals mentioned being organic combinations of silver, it is not likely that they are in any way affected by contact with the rubber nozzle, especially as the contact is of but short duration.

To Remove Patches of Chloasma

Dr. D. W. Q. writes: Do you know of any reliable application for removing brown stains from the face of young woman? These stains appeared during pregnancy and have remained. Would be very thankful for information.

One of the best applications for chloasma, whether hepatic ("liver spots") or uterine, is corrosive sublimate, 1 to 4 grains to the oz. of almond milk. This solution is simply swabbed on a piece of cotton three or four times a day, and allowed to dry. After a few days the skin generally peels off, and with it the brown patch disappears, or it becomes much paler in color. The applications are then continued less frequently until the desired results have been obtained. Persistent and frequent applications of hydrogen peroxide are also useful. At the same time cholagogues in small doses are to be given, and any uterine trouble that may be present is to be attended to. The removal of uterine congestion is alone oftentimes sufficient to bring about a marked improvement in the brown patches if they are of uterine origin.

Best Drugs for the Relief of Pain

Dr. R. R. E. asks what, in our opinion, are the three best drugs for the relief of pain, and which one of the three stands first.

This is a hard question to answer. Pain is the expression of so many conditions, that the question must necessarily be considered vague. But for "pain unqualified," there is but one sovereign drug, and that drug is morphine. There is nothing in the entire materia medica to compare with it as an anodyne; its derivatives are superior to it as sedatives (in irritating coughs, etc.); but as anodynes they don't compare with it. Chloral and the belladonna group also possess anodyne properties, but they are more antispasmodics and narcotics than true anodynes.

Information Wanted on Captol

Dr. A. O. writes: Some time ago I received a circular on captol, a compound of chloral and tannin. Dr. Eichhoff recommends it very highly for dandruff, and as a hair-grower for its sequel, alopecia. Not finding anything in current literature about it, you will oblige me greatly in giving me all possible information, denying or confirming this statement about its utility.

We have had no personal experience with the drug and therefore can say nothing pro or con. The literature on the subject is also rather scanty. What literature we have seen was of a favorable character. A brief reference to it will be found in this issue of the ARCHIVES in the article on "Baldness."

Test for Determining the Alcoholic Strength of a Liquor

Dr. R. M. T. writes: Will you kindly publish in the ARCHIVES a test for the determination of the alcoholic strength of a liquor supposed to be not stronger than 2 per cent?

The percentage of alcohol may be determined by several methods—two follow:

(1) 100 Cc. of the liquid to be examined, measured at a given temperature, are placed in a flask and distilled. When the distillate measures about 50 to 70 Cc., it is diluted to 100 Cc. at the original temperature. The specific gravity of this dilution carefully taken will show the percentage of alcohol contained in the original liquid by reference to the alcohol tables given in the U. S. P. and elsewhere.

(2) Less accurate. Take the specific gravity of the solution at $15\frac{1}{2}^{\circ}$ C. A measured quantity is boiled until about two-thirds of its volume have been dissipated. Dilute the remaining portion with distilled water to the original measured volume, observing the same temperature again. Determine the specific gravity of this dilution at $15\frac{1}{2}^{\circ}$ C. The specific gravity of the liquid before boiling divided by the specific gravity of the dealcoholized liquid equals the specific gravity of the diluted alcohol, which has been boiled away. The per cent. of alcohol is then determined from the tables.

Oxysuccinic Acid

Dr. S. N. B. writes: What is oxysuccinic acid? What is it used for? It has recently been recommended by a writer in the *Medical Times*.

Oxysuccinic acid is the synonym of the well-known malic acid, or apple acid, which is present in apples and other fruits. It is considered antiscorbutic and refrigerant, but has not been used to any extent.

Cephaeline

J. P. S. requests information on cephaeline.

In 1894 Paul and Cownley succeeded in separating emetine (total alkaloid from ipæcac) into two components—cephaeline, and an alkaloid for which they retained the original name "emetine." The formula, $C_{14}H_{20}NO_3$, has been assigned to the cephaeline, and $C_{15}H_{22}NO_2$ to the emetine of Dr. Paul. According to the pharmacological investigations of R. B. Wild (*Pharm.*

Jour., 1895, p. 435), 5 milligrams ($\frac{1}{12}$ grn.) of cephaeline produce in man nausea, slight dizziness, salivation, and a choking sensation, but no actual vomiting. At the same time the arterial pressure is somewhat diminished. A dose of 10 milligrams ($\frac{1}{6}$ grn.) produces similar effects, followed in an hour by violent vomiting. Occasionally intestinal peristalsis is increased, and a soft stool results. No appreciable influence on the nasal mucosa, skin or urinary organs has been observed, and the vomited matter does not contain any excess of bile.

On the voluntary muscles, cephaeline is reported to have but a moderately toxic action; the vascular walls are not excessively contracted, and the innervation of the heart is also affected to a limited degree.

Dose of Drugs for Tablets and Triturates

Dr. T. E. McB. writes: Enclosed please find a list of drugs for tablets and triturates, with their doses, as made out by myself. I would like to have you correct any doses that may be above or below the proper amount. I want them, first, safe, and then sufficiently large to produce their physiological effect when given every three or four hours. I have been using dosimetric granules for some years, but find their doses, with a few exceptions, too small for use. People don't like to take or give medicine every fifteen minutes.

| | |
|---------------------------|---------------------|
| Adonidin..... | gr. $\frac{1}{4}$ |
| Apomorphine..... | gr. $\frac{1}{30}$ |
| Aspidospermine..... | gr. i |
| Berberine Sulphate..... | gr. i |
| Brucine..... | gr. $\frac{1}{12}$ |
| Caffeine..... | gr. i |
| Codeine..... | gr. ss |
| Copper Arsenite..... | gr. $\frac{1}{120}$ |
| Digitalin, German..... | gr. $\frac{1}{60}$ |
| Dig. toxin..... | gr. $\frac{1}{250}$ |
| Hydrastine..... | gr. ss |
| Iodoform..... | gr. i |
| Iron Arsenate..... | gr. $\frac{1}{30}$ |
| Lycetol..... | gr. ij |
| Mercury Bichloride..... | gr. $\frac{1}{32}$ |
| Philocarpine..... | gr. $\frac{1}{8}$ |
| Quassin..... | gr. $\frac{1}{20}$ |
| Quinine Arsenate..... | gr. $\frac{1}{30}$ |
| Sanguinarine Nitrate..... | gr. $\frac{1}{12}$ |
| Sparteire..... | gr. ss |
| Strophanthin..... | gr. $\frac{1}{250}$ |
| Strychnine Arsenate..... | gr. $\frac{1}{30}$ |
| Stypticin..... | gr. ij |
| Terpin Hydrate..... | gr. v |
| Veratrine (Alk.)..... | gr. $\frac{1}{30}$ |
| Arbutin (Glu.)..... | gr. i |
| Quebrachine..... | gr. i |
| Emetin (Res.)..... | gr. $\frac{1}{60}$ |

The doses are all right. Sparteine sulphate, stypticin, and veratrine might preferably be made in smaller doses, say, gr. $\frac{1}{4}$, gr. i, and gr. $\frac{1}{60}$ respectively, as these are the doses more commonly employed. Of course, when deemed necessary two tablets may be given at a time, while to break a tablet into halves is impracticable. Apomorphine as an emetic should be made in gr. $\frac{1}{10}$ tablets; digitalin should also be made in larger doses, say gr. $\frac{1}{16}$.

Correspondence

AND BRIEF CLINICAL REPORTS

A "Broadside" for the Opponents of Iron in Anemia

Editor MERCK'S ARCHIVES:

I have been much interested in the attack upon the utility of iron in anemia, and your very able editorials in its defence. Believing firmly in the clinical test for remedial measures, and having this discussion in mind, I recently treated a typically anemic patient in whom my diagnostic ability could detect no other disease. She had been growing rapidly worse for six months, and when first seen could hardly walk twenty feet on account of breathlessness, and possessed a loud heart murmur. The treatment consisted in the administration of one 3-grain S. C. ferrous carbonate pill four times a day—no more no less; no changes in habits or environment even suggested. Six weeks' treatment changed everything, even to the disappearance of the murmur. As a matter of course your opponents would claim that the carbon, the oxygen, the sulphur or the sugar in the coating of the pills was the curative agent. It is hardly worth while attempting to convince any one who will persist in "whipping the devil around a stump" in this way, for it is beyond conception that in the many preparations having iron as a constant ingredient, there should be found in each an ingredient able to increase the number of red-blood corpuscles, and iron not that ingredient. A mind satisfied to reason from such premises belongs to the class of people who are trying to lift their several bodies by their boot-straps and discover perpetual motion.

It may be admitted that anemia, when it occurs, has an underlying cause—physical, mental, moral or environal. This cause may be in active operation, or it may have ceased to act days or weeks ago or be due to "the sins of the fathers." If in active operation and the cause removed soon enough, the vital force will cure the anemia without the therapeutic use of iron. But if the cause has ceased to act without improvement in the anemia, or if the cause has persisted long enough to render the vital force incompetent, or it is still operative—the therapeutic introduction of iron into the system will be necessary to cure the anemia.

These attempts to introduce iron into the system may not be always successful, because of our ignorance. But the attenuated logic and polysyllabic attacks upon its utility in anemia will not shake the faith of the profession in the accumulated evidence of the centuries and our individual experiences. While they may be a success from their projector's viewpoint of attained notoriety, these attacks will have as disastrous effects upon our opponents' reputation for acumen and the cause they espouse, as the recent explosion of a gas reservoir in France has had upon the lives of the operating aeronauts and upon aerial navigation.

GEO. M. AYLSWORTH, M.D.

Collingwood, Canada.

Treatment of Typhoid Fever with Antiseptics

Editor MERCK'S ARCHIVES:

I would like to make a few comments on Doctor Thayer's "Remarks on Typhoid Fever" (May ARCHIVES, p. 191). In the *Medical Record* for

June 30th, 1900, I described a treatment for typhoid which, so far as I know, is original with myself. To that article I must refer the Doctor for a detailed description of this treatment; it is sufficient to say here that it is a treatment by antiseptics. In defense of this antiseptic treatment let me say:—(1) That I believe the number of bacilli in the intestinal canal is considerable, long after the seventh day, unless they are swept away by cathartics or killed by antiseptics, and that they and their toxins continue to be absorbed and to prolong the illness of the patient. (2) That the use of carbolated camphor not only prevents this, but also acts as an antiseptic and antitoxin in the blood. (3) That the fact that the feces are altered in color and rendered almost odorless, and that the bacilli disappear more rapidly from both the feces and urine under the use of this remedy than without it tends to establish the truth of the above claim.

Dr. Thayer says, "There is no evidence of any value in support of the efficacy of intestinal antiseptics." I have used this treatment for fifteen years, and never have lost a case in which it has been used. Young and strong patients whom I see before the seventh day are back at their work at the end of the fourth week, with very little emaciation or loss of strength. Unless Dr. Thayer can show as good results as these he has no right to say there is no evidence of the efficacy of such treatment. As to diet, I think milk is the worst possible food in typhoid fever. There is no other food that will leave so much hard, tough, undigested, and irritating matter to pass through the intestine in typhoid fever as milk. I rely on dissolved beef, egg-albumen water with lemon juice, and sometimes liquid peptonoids until the patient is nearly well. Also, I believe most fully in keeping the bowels clear of collections of secretions, excretions, and undigested food by the use of cathartics and laxatives, giving a large initial dose of calomel, followed by smaller doses, every four to six days, and using aloin and podophyllin in between. If this treatment is harmful why do all my patients recover, and recover much more quickly and comfortably than under the Brandt treatment?

The main points in my treatment are these: Keep the intestine as nearly empty as possible; disinfect the intestine and the blood with carbolated camphor; insist on absolute rest, cleanliness, and fresh air; support the patient by giving large quantities of food in small, frequently repeated doses, the food being of a kind that may be entirely absorbed from the stomach; assist elimination by giving large quantities of sterile water. Carbolated camphor is not on the market, and nothing that is on the market will take its place. The physician should make it himself, using crystals of carbolic acid, and pure camphor gum, and should see to it that there is always an excess of camphor.

D. E. ENGLISH, M.D.

Millburn, N. J.

Likes Dr. Hubbard's Treatment of Typhoid Fever

Editor MERCK'S ARCHIVES:

The May number of the ARCHIVES is more interesting to me than anything I have read in quite awhile, especially the two papers on "Typhoid." They are excellent and bespeak intelligent minds. But Doctor Hubbard's plain, matter-of-fact, business-like attitude in this horrible disease meets my hearty approval, and his idea of the treatment seems to my mind the more plausible. I am just now in the midst of a few cases of that dreaded disease. Two out of a good family have passed

away, and a third is on the way. I am inclined to use Dr. Hubbard's prescriptions in my cases, and trust to be enabled to give results in the ARCHIVES in the near future.

J. P. CARRINGTON, M.D., Ph.G.

Waller, Texas.

As to the Danger of Administering Chloroform by Gas Light

Editor MERCK'S ARCHIVES:

A few days ago a doctor returned to a druggist a bottle of chloroform which he said contained so much chlorine that he could not use it for purposes of anesthesia. He acknowledged having used it in a night operation and in close proximity to an open gas flame. The druggist suggested that the trouble came from the combustion of the vapor, but as the doctor insisted that the chloroform was impure the druggist could do nothing but redeem it. The chloroform was given to me for examination. I applied to it the Pharmacopoeial tests, and found it to contain no free chlorine, no acid, nor any other impurity. I then took a portion of the sample and used it to anesthetize a patient for an operation lasting forty minutes, and its effect was perfect.

It seems to me advisable again to call attention to the disagreeable and dangerous compounds which are formed when the vapor of chloroform is burned, as it is when this anesthetic is administered in the presence of a gas light. A number of deaths [?] have been caused by inhaling these fumes, which consist of chlorine and some compounds of chlorine, all of which are very irritating to the respiratory tract. This trouble may be avoided if the anesthetizer will keep a towel moistened with ammonia and hung up under the gas. So little is required that the ammonia will not be obnoxious; I have often used it without the operator or his assistants becoming aware that any such precautions were being taken.

It is scarcely the province of the druggists to instruct the doctors, yet there is no doubt of their ability to do it in chemistry at least, and they should be prepared to maintain the purity of the drugs they sell and to prove their claims by explanation and experiment when necessary.

If there is any free chlorine in chloroform which is kept in a cork-stoppered bottle the inner end of the cork will soon be softened and bleached, and a glance will show that the contents of the bottle are unfit for use as an anesthetic. Care should be taken never to dispense chloroform in a wet bottle. Not only is it unsightly, but it interferes with the production of anesthesia by moistening the inhaler and interfering with the passage of air through it. The presence of even a small amount of water in the chloroform hastens its decomposition. Physicians often make the charge that anesthetics are impure, but the facts seldom warrant the charge; the difficulties complained of are usually due to too little knowledge of the physical and chemical properties of the drugs and the proper methods of using them.

D. H. GALLOWAY, M.D., Ph.G.

Chicago, Ill.

Remarkable Action of an Infusion of Mullen on the Kidneys

Editor MERCK'S ARCHIVES:

I will relate briefly my experience with an old and common remedy, the common milkweed or mullen. Mr. W., white, aged forty-seven years, marked case of dyspepsia with uric acid diathesis.

Health had been failing for several years. Was attacked with grip in November, 1900, followed by acute nephritis; general edema, particularly of legs and feet, which were very swollen; painful joints, especially of right knee; unable to walk or get on any shoes for months. Finally he was persuaded to bathe his feet and legs in an infusion of mullen, as hot as could be borne, to please his mother-in-law, who stated that with the birth of her first child she had milk-leg, for which she got no relief until the mullen was used. The patient had been unable to sleep with any satisfaction for months. After using the foot-bath, he slept better; the swelling was much reduced and improvement followed. Here is the action of the herb which interested and surprised me—viz., the action upon the kidneys and evident absorption of the principle of the drug. Mr. W. passed during the night about two quarts of urine, which excretion had been very scant previously. The urine smelled strongly of the tea. To show that he was not mistaken in this, I can testify to the fact myself.

I never saw a clear demonstration of the absorption of a remedy by the skin, and that of the legs only, from the knee down. Has this ever been investigated before?

For some years an infusion of this plant has been used in my neighborhood for coughs, and in the treatment of consumption. With the stablemen it has a great reputation for taking the swelling out of horses' legs.

Lexington, Va.

W. S. WHITE, M.D.

Tannalbin in Infantile Diarrhea

Editor MERCK'S ARCHIVES:

I have several cases on my case-book showing the beneficial results of tannalbin in the treatment of entero-colitis in infants. I heartily deprecate the use of opium in the treatment of that disease. With the use of tannalbin, there is no excuse for opium. Accept many thanks for the many valuable hints I have obtained from the ARCHIVES, which is one of the best journals for the general practitioner.

HALLETT W. THOMPSON, M.D.

Billingsley, Ala.

Editor MERCK'S ARCHIVES:

Tannalbin is one of my friends. Have a few interesting cases of infantile diarrhea here in which it worked like magic, stopping them in twenty-four to forty-eight hours, where the well-known preparations had failed after a long course of treatment. One case in particular of entero-colitis, with bloody stools, was cured in twenty-four hours' treatment, with no relapse, after failure with other means at other physicians' and my hands for six weeks.

W. H. KAHRs, M.D.

1585 Washington avenue, New York City.

Iodipin in Enlargement of Glands

Editor MERCK'S ARCHIVES:

I have now in my care a case of enlargement of the substernal glands, accompanied by loss of voice, due to paralysis of the right laryngeal nerve. Iodipin has been used without exhibiting the least symptoms of iodism, with good results, and patient is doing well, signs of (arterial) sclerosis disappearing and voice returning, while the appetite and bodily functions have not suffered in the least.

H. BEYER, M.D.

Stapleton, S. I.

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

The Relation of Pharmacology to Therapeutics.—The larger school of pharmacologists regards pharmacology merely as an adjunct to therapeutics, and holds that it has no practical value for medical practitioners and no legitimate place in the medical curriculum of the schools, except what is derived from any bearing it may have on clinical therapeutics and the principles of treatment. As soon as pharmacological research goes outside this, it becomes merged in the great science of biology, and is as much apart from practical medicine as are physics, botany, zoology, or chemistry, which also touch it at certain points. If pharmacology ever comes to be taught to medical students apart from the therapeutical applications of medicines, it will lose its active interest and become largely a mere effort of memory, just as *materia medica* now is. This does not mean, however, that the pharmacological actions of substances which are not used as remedies have no interest and do not repay investigation, because such is not the case. On the contrary, such investigations, besides enabling us to classify drugs much more scientifically and broadly, have given us many new remedies and have greatly increased our knowledge of the older ones, so that pharmacology has become an established branch of medical science, but so far only as an auxiliary to therapeutics.—*Edin. Med. Jour.*

The Effects of Regents' Examinations Upon Nervous Children.—The system of semi-yearly examinations conducted by the New York State Board of Regents in all the public schools of the state is being vigorously arraigned as the result of the contention of Dr. Dewitt G. Wilcox, in a paper read before the New York State Homeopathic Medical Society on February 11, to the effect that the health of many children is seriously injured and in some cases permanently impaired by the nervous strain to which they are subjected by these examinations, and that the infections to which school children are most liable find peculiarly favorable conditions for development in the lowered vitality and lessened degree of immunity common to the children about examination time. Dr. Wilcox calls for testimony on the part of medical men as to their experience in this matter, and we venture to say that he will not lack support in his contention. Examinations instituted and conducted by teachers with whom the pupils are intimately acquainted are often found to be too great a strain for those members of the class whose nervous equipoise is easily disturbed. The nervous disturbance is, however, far greater when the examination is prepared by and submitted to an impersonal body in which the child sees no sympathy for its individual peculiarities or capabilities, but to which must conform the bright and dull alike, the vigorous romps and the delicate, over-sensitive ones, without distinction or adaptation of the strain to their individual needs. The system is wrong; the teacher, if competent, is the best judge as to how and when examinations should be held. In Philadelphia and many other cities it has been found advantageous to abandon the examination system almost altogether, and to promote pupils upon their term standing as ascertained by the daily tests and the insight of the teacher. Public education does not necessarily

imply that all children shall be made to meet the same intellectual strain. The ability to perform a given series of ingeniously devised mental "stunts" may or may not mark an awakened sense of the good, the true, and the beautiful, such as makes for good citizenship. The aim of an education must ever be the development of the fullest and soundest mental, moral, and physical life of which the particular individual is capable; this requires in most cases special individual consideration and culture, which is impossible under the inflexible machine system.—*Amer. Med.*

The Cigarette Again.—The *New York Times* makes merry editorially over the fact that "Cigarette smokers have an industrious friend in the *London Lancet*." It quotes at some length some of the *Lancet's* arguments in support of the much and unjustly abused cigarette, and concludes: "It is doubtful if disquisitions like this one really influence anybody to a change of habits. Tobacco is not a thing to argue about—the arguments for and against its use in any form being equally numerous and unanswerable. In such cases taste and convenience govern." This is not quite a fair statement of the case; it reminds one of the old saw, "orthodoxy is my 'doxy, heterodoxy is the other fellow's 'doxy." Neither the *Lancet* nor any other journal, so far as we are aware, has ever argued that people whose "taste and convenience govern" them into not using tobacco at all or discarding some particular form of its employment, should be converted and become smokers, either generally or in particular; all that the *Lancet* and some other journals have contended for is the right of the individual to object to be "governed" by the "taste and convenience" of the other fellow, enforced by purely theoretical, unsubstantiated, exaggerated, and in many instances false, statements as to the evil results of practices common, pleasurable, and even in occasional instances beneficial, when not abused. Some there are, particularly certain neurotic and cardiac subjects, and all children, who should not use tobacco in any form; some who should not use it in certain forms; no one should use it—or anything else—to excess. But these are all points for the individual to settle between himself, or his guardians, if he be not arrived at years of discretion, his medical adviser and his *oæm* "taste and convenience"—not that of the other fellow. The attempt at coercion—by either force or fraud—is equally an outrage in such a matter, whether the ukase be "thou shalt" or "thou shalt not," and is rightly met with a statement in defense.—*N. Y. Med. Jour.*

Iatrophobia.—There is a little magazine published by the New England Antivivisection Society called *Our Dumb Animals*. Just why it bears this name is hardly indicated by the contents of its March number, which is mainly given up to attacks on vaccination. Indeed, other samples of the publication have impressed us with the fact that its management is more interested in fighting the medical profession than in benefiting any class of living beings, dumb or otherwise. What it says does not seriously hurt us; attacking vaccination, for example, is like denying the eternal verities, but we regret to see the spirit and the mental idiosyncrasies that prompt these utterances. Indeed, we can only charitably account for the temper and moral obliquity shown, by assuming a sort of psychic failure on the part of these antivivisectionists. What shall we say of the mental condition of a writer of a recent article in a popular magazine who seems to think

that he has unanswerably demonstrated that the same reasons that justify the sacrifice of the lower animals would be valid for that of human infants? The dog, he says, is equal in intellect to the child one year old, is equally susceptible to pain and in point of love and affection much the superior of the two! He asks: "Why not vivisection the child as well as the dog?" The trouble with these antivivisectionists is that they do not seem to be able to appreciate the difference between a man and a dog—they have lost their human point of view and take, we may say, a general bestial view of things! Following, however, the usual evolution of systematized insanity the persecutory delusions have developed into an aggressive phase; their journalism has become affected with an active iatrophobia—to coin a word for this form of mental aberration—the dumb animals are in the background. The stage of megalomania may next be looked for; like a certain well-known character in fiction, they will set up an image of themselves and call it the divine nature and demand that we shall all bow down and worship.—*Jour. A. M. A.*

Short Cuts Into the Medical Profession.—A rather "practical" contemporary devotes a leading editorial in a recent issue to night medical schools, the same being really an attack on the more modern systems of medical education. We have no quarrel with night medical schools provided that they carry out what they usually propose to perform; they meet a certain need and furnish, under decided disadvantages it is true, a medical education to those who are unable to give their whole time to their medical course. Their graduates may be to a certain extent prepared; they can pass state examinations, and make up later for the handicap with which they start. A man who will honestly devote his evenings till late in the night to study, laboratory work and other accessories of a medical course after a day's exertion in some potboiling occupation ought to be one of more than ordinary resistance to fatigue and capacity for work, and, if his strength and health hold out, these gifts will tell in his future career. Such a one, however, will always regret that his advantages were so limited, unless indeed he is one of those so-called self-made men who have no appreciation of the true relations of things and are ever lost in self-wonder and love and praise of their makers.

What we object to in the editorial alluded to, however, is not so much its defense of night medical schools, which nevertheless, is overdone, as its disparagement of modern medical education; it denounces the latter as superfluous in details, tending to useless memorizing and neglecting the training of the understanding and judgment in practical clinical lines. It says "twenty-five years ago men were turned out of medical colleges sounder thinkers, healthier reasoners and more hardheaded practical men at the bedside than they are to-day from our greatest medical colleges, though they had not memorized as extensively as do the present graduates." If this is true our civilization is getting played out. When one compares the old two-course system of the same lectures over and over again, class after class, that was in vogue twenty-five or thirty years ago, with the laboratory work, graded lectures, and all the other modern requirements of a medical course, to say nothing of the greatly enlarged clinical facilities of a modern medical college, the talk about mere memorizing seems ridiculous enough. It appears, however, to be thought a good enough argument for the "practical man." This, we be-

lieve, is an error; those who have striven against disadvantages and won a deserved, not a fictitious, standing in the profession do not glory in their early deficiencies, but regret them.

There has been a great increase of medical knowledge during the past quarter of a century and the student of medicine has to keep up with it. Our present methods of education may not be perfect, but they are an earnest effort to meet the needs of the times. Education has always been, as Mr. Dooley says, something to be fought for and one has to pull it out of its hole by the hair of its head. This was true in the past and still more so in the present, and the honest medical graduate of to-day, if he has had more facilities, has also worked harder and has earned more fully the right to care for the health of his fellow-men than had those of twenty-five years ago. It is not only right but a duty to discourage short-cuts into the medical profession, and so far as any kind of schools have this aim they deserve only condemnation.—*Jour. A. M. A.*

Le Feuillet Medical.—The French are a queer race. Their novels, their short stories, the journalistic fare served them from day to day, seldom lack some hot-spiced sexual *indécatesse*, strongly expressive and boldly suggestive. In France such topics apparently are thought to be correct and proper; sexual peccadilloes and escapades the most interesting of subjects to read about. Still, it is somewhat surprising to find that this liking for sexual tit-bits is shared by some at least of the medical men of France. A few of the well-known medical journals regularly include in their columns a *feuilleton*, in addition to the more common professional items. The favorite subject of these *feuilletons* is illicit or unnatural love and its results.

Taking a few examples, at random, from recent numbers, there are to be found a series devoted to Catherine of Russia, her libidinousness and sexual psychopathy; an article detailing the unnatural behavior of a bright ornament of the aristocracy of France one or two centuries ago, dug up from out some of the prurient writings of his time; a notice of a defunct bantling of the press issued in 1761, and this only because of the opportunity given for the reproduction of two suggestive letters contributed to (or manufactured for) its columns; an old Latin enigma in verse, with the French equivalent of the grossest nature; prostitutes, prostitution; the laws of tolerance and supervision *cum multis aliis similibus*.

How dirty details, lucubrations upon loose living and peccancies of love, the unearthing of immoral *objets d'estime* of the past, can under any circumstances be incorporated with the science of medicine, is only known to a Frenchman. Illustrative cases, no doubt, of sexual perversion, etc., are frequently included in various books and articles concerned with psychopathology; but only *pro re natâ*. In these *feuilletons* no object is apparent save the titillation of the reader's desire; the inducement to subscribe conveyed to them by combining "fornication and other deadly sins," dressed in all the nakedness of science (rather of pseudo-science), dispassionately discussed with professional subjects.

In truth, the supposed, and probably—for where smoke is fire is—real desire for prurient details, under the pretext of scientific purity, constitutes a deplorable feature of certain of the French medical papers. Doctors surely have enough to do with dirt of all kinds, in the pursuit of their professional duties, without having need of meeting the same in professional guise.—*Ed. Med. Jour.*

Book Reviews

A DICTIONARY OF MEDICINE, including general pathology, general therapeutics, hygiene, and the diseases of women and children, by various writers, originally compiled by Sir Richard Quain, Bart., M.D., LL.D., F.R.S. Present edition edited by H. Montague Murray, M.D., F.R.C.P., assisted by John Harold, M.B., B.Ch., B.A.O.; and W. Cecil Bosanquet, M.A., M.D., M.R.C.P. The first edition of this work appeared twenty years ago, and won immediate and widespread favor with the medical profession. The chief characteristics that made it so acceptable were the comprehensiveness of scope, the conciseness of definition, and the lucidity with which the articles were written. These features are preserved in the present edition, but the last twenty years have been pregnant with numerous important advances and discoveries in the various fields of medicine, and it therefore occasions no surprise to see very many changes in the present edition. The revision of the work has been under the charge of H. Montague Murray, and he has shown himself equal to the task. Some departure from the original plan has been deemed advisable. Many articles have been omitted, while repetitions as far as possible have been excluded. Thus, it has been found practicable to include a large number of new articles, to rewrite many others, and yet to publish the dictionary in a single volume. The treatment of each important disease is given fully, but pharmacological titles are not defined in the dictionary, and this is to be regretted. The mechanical make-up of the book—the paper, printing, illustrations, and binding—is excellent. (D. Appleton & Co., New York. Third edition, largely rewritten and revised throughout. Pp. 1912. Number of contributors, 284. Half Morocco. Price, \$10.)

"The book should be in the library of every physician." This is a stereotyped phrase, bestowed so indiscriminately by some reviewers that it has lost its meaning to a great extent. We are, however, very chary of using that sentence, and apply it to books of great value and originality only, books that we know will prove of real utility to the physician. Such a book is Prof. Thompson's PRACTICAL DIETETICS, WITH SPECIAL REFERENCE TO DIET IN DISEASES. Every progressive physician begins to recognize the ever-increasing importance of dietetics as a part of medical knowledge. In some diseases—those of metabolism, of the gastro-intestinal canal, etc.—diet plays not only an important rôle, but is paramount to all other treatment. In the colleges, however, this subject is to a great extent neglected—perhaps unavoidably so—and the only remedy, therefore, is to take up the subjects as a post-graduate study, and for that purpose Thompson's book is the best. It is characterized throughout by remarkable common sense, opposition to faddism and absence of extravagant or too dogmatic statements. Of course, the whole subject of dietetics is still in its infancy. Thus, for instance, we do not believe that the value of a food can be determined by a simple chemical examination; we are heretic enough not to believe that because a food contains so much proteid, so much carbohydrate, so much fat, etc., it is *ipso facto* superior to a food that contains a smaller percentage of these ingredients. A person may thrive on "scientifically" non-nutritious foods and lose flesh on the most nutritious pabulum. It was but very recently that all our notions, for instance, of diabetes were knocked into

a cocked hat by Mossan's announcement that potatoes have proved a useful diet in his diabetic patients. But whatever is known of dietetics is ably and masterfully presented to us in Prof. Thompson's volume. This, the second edition, has been thoroughly revised and enlarged. We therefore say: The book should be in the library of every physician. (D. Appleton & Co., New York. Pp. 828. Cloth. Price, \$5.)

ABBOTT'S BACTERIOLOGY: A MANUAL FOR STUDENTS AND PHYSICIANS, represents the science of bacteriology down to the very date the book went to press. This, the sixth edition, has been thoroughly revised and enlarged to admit of the incorporation of the advances made within the past three years. Among the additions are the recent findings regarding the micro-organisms of dysentery and cerebro-spinal meningitis; the discovery of the new group of micro-organisms, which are rather closely allied to the tubercle bacillus and have the property of causing lesions more or less suggestive of tuberculosis; and several other points of minor importance. We have no doubt that this new edition will enjoy the same favor accorded the previous editions. (Lea Brothers & Co., Philadelphia and New York. Pp. 636, with 111 illustrations, of which 26 are colored. Cloth Price, \$2.75 net.)

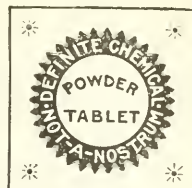
THE NEUROSES OF THE GENITO-URINARY SYSTEM IN THE MALE, WITH STERILITY AND IMPOTENCE. By Dr. R. Ullmann, Professor of Genito-Urinary Diseases in University of Vienna. Second edition. Revised, with notes and a supplementary article on "Nervous Impotence," by the translator, Gardner W. Allen, M.D., Surgeon in the Genito-Urinary Department of the Boston Dispensary. An interesting booklet and full of practical suggestions for the treatment of this notoriously rebellious class of cases. If physicians took greater care to familiarize themselves with the nature and cure of sexual neuroses, the harvest of the quacks and charlatans would be much more scanty. But there are hopeful signs of an awakening to the importance of the subject. The above book can be recommended to the general practitioner for its clearness and conciseness. (F. A. Davis Company, Philadelphia. Illustrated. Pp. 198. Extra Cloth. Price, \$1 net, delivered.)

Pamphlets Received

- The Ultimate Results of Operation for Cancer of the Uterus. By Charles P. Noble, M.D. Reprinted from the "Philadelphia Medical Journal."
- Effect of Direct, Alternating, Tesla Currents and X-Rays on Bacteria. By F. Robert Zeit, M.D. Reprinted from "The Journal of the American Medical Association."
- Pathology and Bacteriology of Uretero-intestinal Anastomosis. By F. Robert Zeit, M.D. Reprinted from the "New York Medical Journal."
- The Operative Cure of Procidentia Uteri. By Charles P. Noble, M.D. Reprinted from "American Medicine."
- The Technics of Nephropexy, as an Operation *per se*, and as Modified by Combination with Lumbar Appendicectomy and Lumbar Exploration of the Bile Passages. By George M. Edebohls, A.M., M.D. Reprinted from the "Annals of Surgery."
- Migrated Ovarian and Parovarian Tumors, reprinted from "Medical Record," and The Cure of Chronic Bright's Disease. By George M. Edebohls, A.M., M.D.



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Miscellany

Now instructive, now amusing—but always interesting and worth reading

A PARODY ON DOYEN'S REPORT OF HIS OPERATION, SEPARATING THE TWINS RODICA AND DOODICA.—M. Doyen's newspaper report of his operation on Rodica and Doodica has been made the subject of an amusing parody in that eminently respectable paper, the *Temps*. The author records how he operated upon Dr. Doyen, whose exceptional cerebral activity had doubled his personality.

"By ill luck the scissiparity was incomplete, the two persons remained attached to one another by a membrane extending from the umbilicus to the sternum. To distinguish them it was necessary to call one Radoyen, and the other Doyenka. This at first caused no inconvenience, but with increase of age troublesome disagreements, grave incompatibilities of character and temper became manifest between the two doubles. . . . It was determined to separate them, and my scientific aid was invoked. The operation did not last twenty minutes. I had invited my friends, the phenomena of Barnum and Bailey's circus, who are now indispensable to me. They were of the greatest use to me, particularly the man with the elastic skin. By stitching the skin of his abdomen to that of the abdomen of the living skeleton, I constructed artificial Siamese twins on whom I made most interesting preliminary experiments. There were also present the armless man, who wrote at my dictation with his foot, and the pincushion man, who played a modest but indispensable part, as will presently be seen. The two monsters, Radoyen and Doyenka, were placed upon a table invented by me, covered with a sheet sterilized by means of a preparation which is my property. I took up my position on their right, so that the cinematograph should lose nothing either of my movements or my features. The superficial part of the portion of the membrane was formed by a cartilaginous plate of a certain thickness which I divided with a bistoury made according to my directions. As is usual in my clinic, anesthesia was produced by means of chloride of methyl. As I ceased to require my needles, my scissors, and my forceps, I stuck them into the cheeks of the pincushion man, that is what he served for. Underneath the cartilaginous plate I found, as was to be expected, a bridge of liver, seven centimetres in breadth by four in thickness, traversed by a large number of arteries, arterioles, veins, and venules. This was the time or never to use my original method of hemostasis. I therefore performed extemporaneous crushing of the hepatic pedicle by means of my large double lever forcens from Creusot, which weighs a million tons, but which can be set in motion by one finger, and which exerts a pressure of 600,000 kilos. . . . Happily for posterity the operation was completed before the cylinders of the cinematograph were exhausted. Radoyen was first carried to a neighboring table, a compress invented by one of my usual assistants was placed in the wound, and the skin provisionally brought together with toothed forceps, of which I recently published a drawing. Then came the turn of Doyenka. I sutured his abdominal wall, taking care to leave in a small drain of gauze sterilized by my ordinary attendant whom I cannot recommend to my *confrère*. The operation had succeeded. As for

Radoyen and Doyenka, I hope they will get over it. An immense concourse of people, which I estimated at seven millions, was waiting at the door of the hospital, and I had to escape from their acclamations. There were also seen under the windows twelve or fifteen hundred automobiles, among which could be recognized those of the King of Kymris, of the dethroned Emperor of the Aztecs, of the Grand Duke of Ganzeborg, of Lord Untrue, of the Marquis de Las Pesetas ey Cambio, of Jobard Pasha, of the Ambassador of Andorre, of the Fencer Spada-Blanca, of Mademoiselle Suzanne Chaste the exquisite storyteller, in short all Paris, including the private secretary of the Ministry of Submarine Communications, who had come in a cab. The Santos-Dumont No. 17,964 floated above my head, performing a thousand sublime evolutions. The King of the Air was even good enough to ask me to dinner in his boat, but the wind not being particularly favorable, after a masterly descent I decided to go home by the tram."

The self-assertion and eagerness for notoriety which made themselves felt in every line of the original are scarcely exaggerated in this clever skit.—*The Practitioner*.

ANOTHER EDDYITE HOMICIDE occurred last week in Philadelphia, a child dying of diphtheria without medical attendance, while the unchristian unscientists "prayed." As no charge was said to be made for the services—the services of allowing death to take place—the coroner was unable to prosecute for illegal practice of medicine. In the first place this falsehood as to "no charges" should not longer be permitted. Secondly, true or untrue, it should not constitute an excuse for illegal practice. Thirdly, laws should be secured against those who cause the death of the innocent by ignorance or fanaticism.—*Amer. Med.*

"FULL MAIL COURSE, DIPLOMA, AND DEGREE, D.O., FOR \$10.00."—Our esteemed contemporary, the *Cleveland Medical Journal*, is justly astonished that the "National School of Osteopathy" offers to prepare "men and women, young and old" for practising "the great science of healing without drugs" in three weeks, enabling them to begin "a lucrative practice" at once. But the down road to Avernus is easy traveling, and we have before us a far better offer than this. Why should one pay the big fee of \$25.00 for a complete medical education, and work for it even three weeks, when it may be had by return mail for \$10.00? A correspondent sends us a letter from another "College of Osteopathy" from which we make the following selections:

"We are offering our full Mail Course in Osteopathy, bound in five parts, examination papers, Diploma and Degree D.O., to you upon payment of \$10.00 only, instead of \$25.00. We do not wish you to miss the chance of getting right to work at this best of all professions merely because you cannot afford the full fee. To compensate ourselves, however, for this reduction in price, we must withdraw the offer of the Anatomical Chart and books on Physiology and Anatomy, which we offer to our \$25.00 students. However, as these latter works are not essential to your success as an Osteopath, you will probably be much better pleased with this \$10.00 offer. There will be no further reduction in cost of our course at any time; in fact, we are seriously considering whether in justice to our students, and to maintain the dignity of our Diploma we can continue to offer these privileges longer than a few weeks.

(Continued on p. xiv)

MEETINGS OF STATE MEDICAL SOCIETIES

| NAME | ANNUAL MEETING | WHERE HELD | SECRETARY |
|--|-------------------------------|--------------------------|--------------------------------------|
| Alabama Medical Association..... | April 21, 1903..... | Talladega, Ala..... | G. P. Waller, Montgomery, Ala. |
| Arizona Medical Association..... | May 21, 22, 1902..... | Tucson, Ariz..... | Chas. H. Jones, Tempe, Ariz. |
| Arkansas Medical Society..... | May 13, 14, 15, 1902..... | Little Rock, Ark..... | J. P. Runyan, Little Rock, Ark. |
| California, Med. Soc. of the State of..... | April 15, 1902..... | San Francisco, Cal..... | George H. Evans, San Francisco, Cal. |
| Colorado State Medical Society..... | June 17, 1902..... | Fueblo, Colo..... | J. M. Blaine, Denver, Col. |
| Connecticut Medical Society..... | May 28-29, 1902..... | New Haven, Conn..... | N. E. Wordin, Bridgeport, Conn. |
| Delaware Medical Society..... | June 10, 1902..... | Newark, N. J..... | John Palmer, Jr., Wilmington, Del. |
| Dist. of Columbia Medical Association..... | Oct. ber 7, 1902..... | Washington, D. C..... | Monte Griffith, Wash. |
| Florida Medical Association..... | April 5, 1, 03..... | St. Augustine, Fla..... | J. D. Fernandez, Jacksonville, Fla. |
| Georgia Medical Association..... | April 15, 1903..... | Columbus, Ga..... | Louis H. Jones, Atlanta, Ga. |
| Idaho State Medical Society..... | October 9, 10, 1902..... | Moscow, Idaho..... | Ed. D. Maxey, Caldwell, Idaho. |
| Illinois State Medical Association..... | May 20, 21, 22, 1902..... | Quincy, Ill..... | E. Weiss, Ottawa, Ill. |
| Indian Territory Medical Association..... | May 22, 23, 1902..... | Evansville, Ind..... | Fred. S. Clinton, Tulsa, I. T. |
| Indiana State Medical Society..... | May 10, 1902..... | Des Moines, Iowa..... | F. C. Heath, Indianapolis, Ind. |
| Iowa State Medical Society..... | May 7, 8, 9, 1902..... | Lawrence, Kan..... | V. L. Treyner, Council Bluffs, Ia. |
| Kansas Medical Society..... | May 1, 1902..... | Paducah, Ky..... | J. W. May, Kansas City. |
| Kentucky State Medical Society..... | June 3-5, 1902..... | Shreveport, La..... | Steele Baily, Stanford, Ky. |
| Louisiana State Medical Society..... | June 4, 5, 6, 1902..... | Portland, Me..... | H. B. Gessner, New Orleans, La. |
| Maine Medical Association..... | April 22, 1902..... | Baltimore, Md..... | Charles D. Smith, Portland, Me. |
| Maryland Medical and Chirurg. Faculty..... | June 10, 11, 1902..... | Boston, Mass..... | J. W. Lord, Baltimore, Md. |
| Massachusetts Medical Society..... | June 26, 27, 1902..... | Port Huron, Mich..... | J. W. Goss, Roxbury, Mass. |
| Michigan State Medical Association..... | June 18, 1902..... | Minneapolis, Minn..... | Andrew P. Biddle, Detroit. |
| Minnesota State Medical Society..... | April 16, 1902..... | Jackson, Miss..... | Thos. McDavitt, St. Paul, Minn. |
| Mississippi State Medical Association..... | May 20, 21, 22, 1902..... | St. Joseph, Mo..... | C. H. Trotter, Winna, Mass. |
| Missouri State Medical Association..... | May 21, 1902..... | Anaconda, Mont..... | B. C. Hyde, Kansas City, Mo. |
| Montana Medical Association..... | May 6, 7, 8, 1902..... | Omaha, Neb..... | B. C. Brooke, Helena, Montana. |
| Nebraska State Medical Society..... | May 15, 16, 1902..... | Concord, N. H..... | A. D. Wilkinson, Lincoln, Neb. |
| New Hampshire Medical Society..... | June 24, 25, 26, 1902..... | Atlantic City, N. J..... | G. P. Conn, Concord, N. H. |
| New Jersey Medical Society..... | October 21, 22, 23, 1902..... | Albany, N. Y..... | Wm. J. Chandler, South Orange. |
| New York, Medical Society of the State of..... | June 3-7, 1902..... | New York City..... | F. C. Curtis, Albany, N. Y. |
| New York State Medical Soc. of the State of..... | May 21, 22, 1902..... | Wilmington, N. C..... | G. D. Lombard, New York City. |
| North Dakota Medical Society..... | September 1, 1902..... | Grand Forks, N. D..... | G. W. Pressly, Charlotte, N. C. |
| Ohio State Medical Society..... | Sept. 16-18, 1902..... | Toledo, O..... | E. C. Branch, Wheatland, N. D. |
| Oregon State Medical Society..... | June 5, 1902..... | Portland, Ore..... | F. M. Foshay, Cleveland, Ohio. |
| Pennsylvania Medical Society..... | April 15, 16, 1903..... | Allentown, Pa..... | A. D. Mackenzie, Portland, Ore. |
| Rhode Island Medical Society..... | April 14, 15, 1903..... | Providence, R. I..... | C. L. Stevens, Athens, Pa. |
| South Carolina Medical Association..... | April 4, 1902..... | Sumpter, S. C..... | F. L. Day, Providence, R. I. |
| Tennessee State Medical Society..... | October 9, 10, 1902..... | Nashville, Tenn..... | Wm. Weston, Columbia, S. C. |
| Texas State Medical Association..... | September 23-25, 1902..... | El Paso, Texas..... | D. J. Roberts, Nashville, Tenn. |
| Vermont State Medical Society..... | May 1902..... | Burlington, Vt..... | H. A. West, Galveston, Tex. |
| Virginia Medical Society of..... | June 24-26, 1902..... | Newport News, Va..... | G. H. Gorham, Burlington, Vt. |
| Washington State Medical Society..... | May 1902..... | Tacoma, Wash..... | L. B. Edwards, Richmond, Va. |
| West Virginia Medical Society..... | June 4-6, 1902..... | Parkersburg, W. Va..... | A. H. Coe, Spokane, Wash. |
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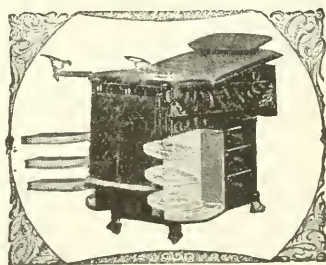
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(Continued from p. XI)

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HORSE, DOG, AND THE MAN.—

The horse and the dog had tamed a man and fastened him to a fence;
Said the horse to the dog: "For the life of me,
I don't see a bit of sense
In letting him have the thumbs that grow at the
sides of his hands—do you?"
And the dog looked solemn and shook his head
and said: "I'm a goat if I do."

The poor man groaned and tried to get loose, and
sadly he begged them: "Stay!
You will rob me of things for which I have use
by cutting my thumbs away!
You will spoil my looks, you will cause me pain!
And why should you treat me so?
As I am God made me, and He knows best! Oh,
masters, pray let me go!"

The dog laughed out and the horse replied: "Oh,
the cutting won't hurt. You see.
We'll have a hot iron to clap right on, as you did
in your docking of me!
God gave you your thumbs and all, but still the
Creator, you know, may fail
To do the artistic thing, as He did in furnishing
me with a tail!"

So they bound the man and cut off his thumbs
and were deaf to his pitiful cries,
And they seared the stumps, and they viewed
their work with happy and dazzled eyes;
"How trim he appears," the horse exclaimed,
"since his awkward thumbs are gone,
For the life of me I cannot see why the Lord ever
put them on."

"Still, it seems to me," the dog replied, "that
there's something else to do;
His ears look rather too long to me, and how
do they look to you?"
The man cried out: "Oh, spare my ears! God
fashioned them as you see,
And if you apply your knife to them you'll surely
disfigure me."

"But you didn't disfigure me, you know," the dog
decisively said,
"When you bound me fast and trimmed my ears
down close to the top of my head!"
So they let him moan and they let him groan
while they cropped his ears away,
And they praised his looks when they let him up,
and proud indeed were they.

But that was years and years ago, in an unen-
lightened age!
Such things are ended now, you know! we have
reached a higher stage!
The ears and thumbs God gave to man are his to
keep and wear,
And the cruel horse and dog look on and never
seem to care.

—S. E. Kiser, in *Rider and Driver*.

WHEN I STUDIED MEDICINE.—I was greatly inter-
ested in the subject of dissection. There
seemed to be something very fascinating and
attractive about it. I comprehended that I was
trying to learn, in part at least, how wonderfully
we were constructed. This always has seemed

to me to be a profound mystery, and the more I
study the human being the more surprising it
seems. The fact that a something called life or
soul enables us to make use of our muscles,
nerves, etc., and then to have this something re-
moved and all this wonderful mechanism be-
come dead and motionless, puzzles the under-
standing and increases the mystery. Finite minds
are not capable of understanding what life really
is. We know somewhat about its action, but
what is it? is the question unsolved. I do not
understand this wonderful machine I must ad-
mit.

I was bragging one day about being very cour-
ageous. I claimed that I did not fear the dead.
I said I would not be afraid to visit the dissect-
ing-room alone on the darkest night, etc. Well,
I really was not afraid, yet I must admit some
other place would have been more acceptable than
a dissecting-room, with fifteen or twenty partially
dissected bodies in it, alone on a dark night. I
said so much, however, that the boys where I
boarded decided to try me. It was agreed that
an Anatomy should be left upon one of the dis-
secting tables where a subject was, and I was
to go after it at twelve o'clock at night. I cannot
say that I admired the job very much, but after
having said so much about my bravery I was
not going to back out. I had no fear of the dead,
for I very well knew they could do me no harm.
But I did not know what the living might do.
I expected some trick. The keys were obtained
from the janitor on the plea that several wished
to dissect that night later than usual. There
were a number of students boarding where I
did, and all had been informed of what I was
going to do. As it neared twelve o'clock I felt
very much like giving up the job. I knew, how-
ever, that if I did I would never hear the end of
it. I do not know why I should have dreaded
anything of the kind, but the nearer the hour ap-
proached the more I did dread it. I felt creepy
and ill at ease. Several of the boys claimed they
were tired and said they would go to bed. That
I could show them the Anatomy in the morning
in proof of my having gone after it. These boys
pleading sleep aroused my suspicions. I con-
cluded I would take a look at their rooms before
starting out. I found one room, where three
clever though wild fellows slept, empty. This
plainly told me that they were somewhere plan-
ning mischief, and put me on my guard. The
college was only about three squares from where
I boarded, so at ten minutes before twelve I
started. I took with me a very heavy hickory
cane which I had made myself. I felt like turn-
ing back when I got near the college, but did not.
When I put the key in the lock of the lower door
I found that it was not locked. This was proof
to me that I might look for the boys either on
the stairs or in the dissecting room. When I en-
tered the first door I locked it and put the key
in my pocket. As I ascended the stairs I made
free use of my cane so as to make sure whether
any one was in the stairway. I found no one.
When I passed through the second and third
doors I locked them. I determined no one would
leave the room before I did. They told me after-
wards that they expected I would leave the keys
in the doors and they intended to lock me in. I
knew exactly where the book was, and could
readily put my hand on it. There was also a
dim light in the room proceeding from a coal
stove. The room had to be kept warm to keep
the bodies from freezing, as the weather was very
cold. I reached after the book, when there was
a low moan, as though it proceeded from the

subject upon the table. I knew it was a living voice, and not that of the dead. I knew it was one of the boys, yet it startled me and made me feel very queer. I really wished I was well out of the room. I finally got the book in my hand, when I heard a groan from another part of the room. I looked towards the locality from which the voice seemed to come and there I beheld a spectre dressed in white. It had its arms outstretched in ghost-like fashion. I could see it but indistinctly on account of the dim light, yet it looked much larger than a human being. Just at this moment there proceeded from another part of the room the word "Help!" repeated in a sepulchral tone. My hair did not turn gray, because I was satisfied that all this proceeded from my school mates, but in spite of this certain knowledge I felt very uneasy, and got out of the room as speedily as possible. Before leaving I threw a dissecting-case at the spectre in white. I presume my aim was not very accurate. As I left the dissecting-room I locked the doors upon the outside and took the keys with me. I reached my boarding house all right with the Anatomy in my possession. I soon went to bed, but did not go to sleep. In fact, my experience had been such that temporarily sleep was banished. Neither did I wish to go to sleep, because I knew that three of my fellow-boarders were locked up in the dissecting-room. I wanted to see how the matter would end. After some time my other mates came into my room and asked me if I had the keys for the dissecting-room doors. I told them I had. They wanted them so they could return them to the janitor early in the morning. I told them I would attend to that. After another consultation they told me I had locked the boys up in the dissecting-room. I replied I was aware of that, and I would go with them and let them out. We went to the college and opened the doors. We found three of about the sorriest-looking young men I ever beheld. They promised if I would say nothing about it they would furnish an oyster supper. I never did say anything about it, but it was too good to keep. Some of the boys themselves let it out. Of course, I denied the whole thing.

I cannot tell why I should have felt any different in the dissecting-room that night, knowing the circumstances as I did, than I should have done in a room of twenty people. I cannot explain it, yet I must admit that I did. Why does being in the presence of the dead have a different influence over us, any way, than being in the presence of the living? What is there about the dead that causes us to shudder and feel sad and solemn, almost afraid?

College days are happy days. There are always a lot of good-hearted, honest, friendly, intelligent, likable fellows to be found in every college. Friendships are often formed that remain through life. I found at Rush Medical College many of this kind.

We nearly always find in every college a few wild, harum-scarum boys—perhaps not actually bad, but strongly verging that way. I do not know that a medical college has any more of this class than has any other department of learning, but the impression is abroad, for some reason or other, that medical students lead all others in deviltry and waywardness. We had a few of these irrepressible, uncontrollable, wild fellows at Rush during both courses of lectures that I attended there.

Dissection is generally looked upon as loathsome, greswome, unpleasant and disgusting. I

(Continued on p. xvi)

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(Continued from p. xv)

do not think it hardly so bad as that. I admit that it is not as agreeable as eating bon-bons in a parlor, yet those who dissect soon become accustomed to it, and to a great extent are able to banish its repulsiveness. They hardly realize that they are cutting to pieces one who was once alive and as active as themselves—one who may have been a parent's pride or a lovely wife or husband or sweetheart, one who possessed all the passions that they possess. I could never fully banish this idea from my mind during all my dissection experience. It was always a solemn duty for me to perform.

There were some at Rush who made dissection indecent, loathsome and disgusting. They would throw pieces of the subjects at one another, and make great sport over it. It seemed to me that this was heathenish and out of place. It was not showing proper respect to the dead. Not that it harmed the dead any, but any one that was so heartless as to do this contemptible thing showed hardness of heart, lack of respect and decency. None such should ever become physicians. One so unfeeling to the dead, it seemed to me, could not well help being unfeeling to the living. I never could take any part in anything of the kind myself, and others made a protest against it. It was finally stopped by the faculty. But the course came to an end and the students returned to their various homes to put in another summer of study.—G. J. Monroe, M.D., in *Cin. Lancet-Clinic*.

VANITY.—A professional friend, speaking of the turning point in his career, said that he received his diploma from an American medical college, and then, having a relative who was consul at one of the German cities, he went to Germany to finish his course.

He returned to the States, firmly persuaded that there was very little, if anything, about medicine that he did not know. He entered upon practice with a flourish of trumpets. Influential family connection and the *éclat* of his foreign course, gave him a fine opening. But, strange to say, his success was very indifferent, and his practice began to languish.

At length he was called to a case in a neighboring town. He came, made his diagnosis, prescribed, and assured the family that the patient would improve rapidly.

But the patient did not improve; on the contrary, he grew rapidly worse, and the family insisted upon calling a doctor near by in consultation. Our friend assured them there was no danger, and that he was perfectly competent to handle the case, but as they stood firm, he reluctantly consented.

When the other doctor came, he examined his patient carefully but said nothing until they were alone. When our friend had given his diagnosis and treatment, the consulting doctor told him in a kind but positive way, that his diagnosis was all wrong, and the patient a very sick man—that the treatment was aggravating the condition, and must be changed.

Our friend could not see it; was sure he was right, and finally it was left to the family to decide. They elected to follow the older man's counsel, who finally persuaded his young colleague to remain and watch the issue.

The treatment was changed, accordingly, to conform to the last made diagnosis, and that night the patient had some refreshing sleep for the first time. In the morning he was distinctly better, and from thence on his convalescence was rapid.

This case was an eye-opener for our friend.

He knew the patient was very sick, and the rapid way in which the symptoms yielded, once the condition was clearly understood and the proper remedies applied, made a deep and lasting impression.

He looked at the pleasant, homely, middle-aged man, who had never been more than a hundred miles away from his native town, whose medical knowledge was mostly self-got, yet who could work such marvels so quietly, as a matter of course, with intense respect.

He contrasted what the man, whose skill was self-taught, had accomplished, where he, with all his learning and advantages, had failed, and in a moment he realized how much of what we call science is mere pretentiousness and bigotry.

He said he went out of that sick room determined to look for truth and fact wherever they might lead him; to put aside the vanity that took egotistical assumption for knowledge, to reject prejudice and the pride of caste which hampers so many able minds.

He says that he has lived up to this resolution as well as he is able; that he never refuses to listen to, or to learn from, any and every one; that he investigates where he is uncertain, and disdains no gleam of light from whatever source it comes. Moreover, he says that he is very much more successful, influential, and a happier man than he was the day he met and scorned the simple country doctor, who gave him the most valuable lesson of his life.

We can all profit by this chapter from our friend's history. Vanity stands in our light, and blocks our way more often than we realize. There are many uncultured people, with keen intuitions, and much natural ability, who have grasped facts, and gotten at truths which would prove invaluable in our hands.

There are old women, who have scratched about in the fields and discovered herbs, which, made into teas, produce wonderful effects in the body. Here, some ignorant man's mechanical eye has discerned the benefits of a certain position or appliance; some one else's very sufferings have stimulated invention to devise a method or process, all of which are helpful in making a cure.

Be not in haste to disdain any suggestion. Even if obscure, you may still get the nucleus of a valuable idea.—*Brief*.

RESULT OF "ABSENT TREATMENT."—A young woman, who is a so-called Christian Scientist, had observed with a growing pity a cripple who passed her house daily. His efforts to walk were so evidently painful that she determined to try the "absent treatment" on him. After the first few days of her self-imposed task she thought she noticed signs of improvement, and one day he appeared without his crutch and walked with hardly a limp. She was so overjoyed that she rushed to the street, seized the man's hand, and said: "My dear friend, you must excuse me, but I cannot refrain from rejoicing with you over your cure. I have used faithfully the 'absent treatment' for your infirmity, and I cannot tell you how happy I am to see by your walk that you have recovered." When the man rallied from the bewildering effect of this sudden outburst of "present treatment," he replied: "Thank ye kindly, ma'am, for your interest in me. I don't suppose it has hurt me any. But I may just as well say I have just got a new wooden leg with rubber foot, and it works splendid, ma'am. The other old wood-foot thing always did make me limp."

(Continued on p. xviii)

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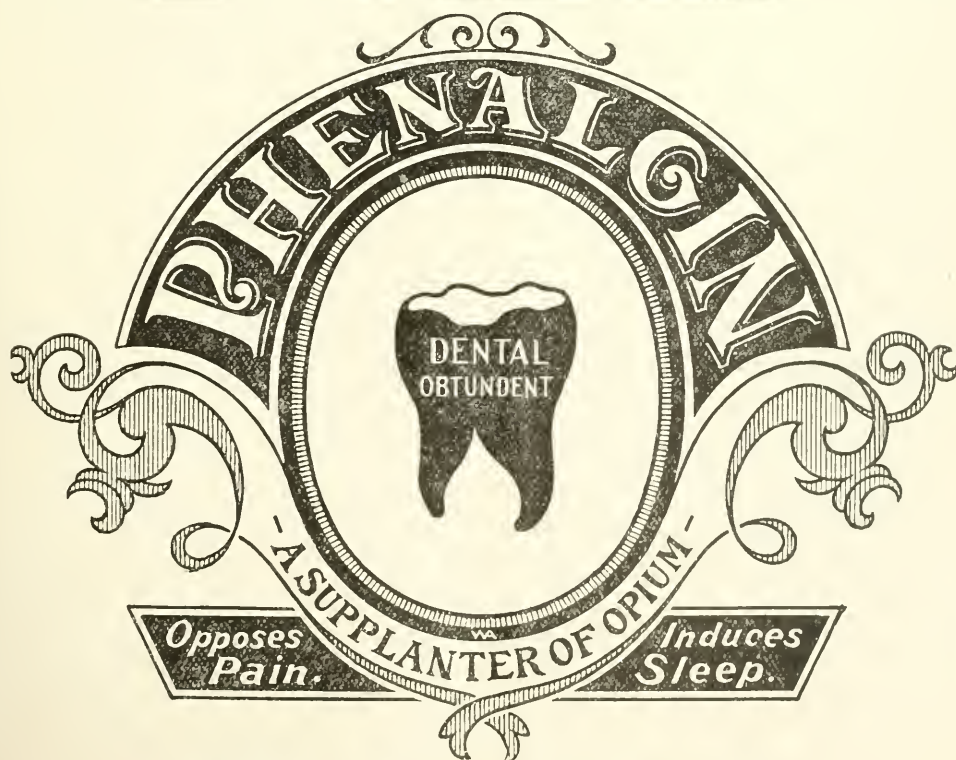
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(Continued from p. xvi)

HOGAN'S NERVE.—"I hear Hogan is sick," said the barber.

"Yes, but he's better now," said the bailiff. "He went to a doctor, who looked him over and then wrote out a prescription.

"How much will that cost, doc?" asks Hogan.

"About a dollar and a half," says the doctor.

"Have you got that much to loan me, doc?" says Hogan.

"The doctor took the prescription back and crossed off all the items except 'aqua pura.'

"You can get that for ten cents," he says, handing it back to Hogan; 'and here's a dime.'

"Don't I have to take those things you scratched off?" asks Hogan.

"No," says the doctor. "Those are nerve tonics. You don't need 'em."—*Ex.*

BE TREATED OR THREATENED.—A "Lung Cure" Company was recently visited by a woman of Philadelphia; as she did not return to be cured of her consumption, she soon received the following letter:

Dear Madam: We feel that it is our duty as physicians to warn you of your danger, and urge you to begin treatment for your lungs at the earliest possible moment.

It is not a matter you can trifle with, it is a question of life or death.

Do not wait until it is too late, but come while there is a possibility of being cured.

Respectfully—

A week later came the following:

Dear Madam: Don't you want to get well, or are you waiting until some frightful hemorrhage compels you to begin treatment? Don't trifle with your life. It is too late when the *hearse* is at the door.

A reputable physician, who forwards us the foregoing letters, writes that the woman "has no symptoms or demonstrable lesions of tuberculosis."—*Amer. Med.*

THE OLDEST AND BEST PLACEBO.—

The young man spoke:

"The tempting sweets of life, I'll pluck them all. I need but wish, into my hands they fall. To live is bliss indeed, to me it seems. I grudge the hours I waste in sleep, in dreams—Dreams worse than fairy tales, more unreal. Asleep I miss some joy I fain would—"

The old man woke:

"Alas how short that sleep! the cause I know; Old age, this racking cough, my gouty toe. The past, my youth that dream restored again. 'Tis true in sleep the sick forget their pain; And they, yes, they may say, with fervor deep; 'Thank God! He giveth his beloved sleep.'"

—Walter H. Parsons, M.D., in *Penn. Med. Jour.*

THE BISHOP OF WINCHESTER.—A young man once said to the Bishop of Winchester (Wilberforce): "My lord, have you read Darwin's last book, on the 'Descent of Man'?"

"Yes, I have," said the Bishop.

The young man continued: "What nonsense it is, talking of our being descended from apes. I can't see what difference it would make to me if my grandfather was an ape."

"No," the Bishop replied. "I don't see that it would; but it must have made an amazing difference to your grandmother."—*Ex.*

GREAT AGE FOR GIRLS.—"It's a great snap to be a working girl," declared the Rev. Dr. P. S. Henson last evening at the opening of the Hotel Eleanor. "They're working into doctor's offices,

the pulpit, the banks, the stores—about the only chance the men will have soon will be to get off the earth. We men are beginning to sympathize with the man who went to the war and cried at the sight of blood.

"Don't be a baby, John," said his comrades.

"I—I wish I was a baby," he sobbed, 'and a girl baby, too.'—*Ex.*

MEDICINE IN ANCIENT EGYPT.—At the very dawn of the world's history, medicine was given a place to be envied—a place beside the gods and rulers. If the position of the doctor be questioned to-day, there was a time when he occupied a station beyond dispute. He may never again be so appreciated, but once he mingled with gods, and was no less than a little god himself.

Chnemu, the god and physician of the Upper Nile, put together the scattered limbs of the dead body of Osiris. On the beautiful temple at Philæ, he is represented making man out of clay on a potter's wheel.

Isis, goddess of Philæ, demonstrated her eminent medical skill by recalling the life of her son, Horus.

Imhotep, the Egyptian Æsculapius, whose temple stood at Memphis, and Chunsu, the counsellor of the sick, are often mentioned, but were of lower rank.

Thot, a god represented with the head of an ibis or a dog, enjoyed great respect as inventor of art in general, and especially of the healing art, and Thot is supposed to have been the author of the oldest Egyptian medical works, whose comments were first engraved upon the pillars of stone, and subsequently formed part of the so-called "Hermatic Books."

The cat-headed Pacht exerted such influence over parturient women that the cat was made sacred to this goddess, and the killing of a common, nasty, lemon-colored cat was punished by death. To-day, tons of mummy cats are being exhumed, having been preserved thousands of years with great care and ceremony.

The gods were worshipped through the priests or doctors. In the early period of Egypt's existence, we are led to believe the doctor played a most important part as the representative of the gods, and perhaps he may be pardoned for having felt at times that he was a little deity. But even then he was more modest than some healers of the twentieth century, who claim to be a large part of God, if not the whole thing.

Each city and place had its gods; each god his doctors. People moving from place to place took their little gods and their great gods with them. This confused matters and multiplied the places of worship and the number of doctors (as badly as now). So great and rapid became the confusion and multiplication, that a reaction was created, and a change was found necessary. The number of gods made it difficult for the people to get around to pay their respects; the numerous places of worship became expensive, and the offerings burdensome.

It was clear that the number of gods must be curtailed, the places of worship made fewer and expenses reduced. All this necessarily affected the doctors. There was but one way—namely, consolidation—and an amalgamation of divinities was instituted. A trust of, if not in, gods was formed. This is one better than Mr. Morgan has proposed, but there is no telling what he may have in mind.

In the early days of Egypt, patients were sent to the temples for treatment if able to move or

be moved, or sat beside the road where they might be seen and prescribed for by those who had had similar ills. When a priest doctor was called to the bedside of the sick, his only hope of curing the patient was through prayer. In those days it required no thought or knowledge to be a doctor, no experience was of service, no scientific investigation desired; dissection was considered unholy; vivisection criminal—even the undertaker who made the incision for disemboweling for embalming was mockingly whipped, stoned and chased. Prayer and faith were the "All-in-all;" incantations, the only possible means of cure. These ignorant, superstitious healers depended entirely upon mental impression. If the malady was slight or the endurance of the patient great, the prayer healer got the credit of effecting a cure. If the patient died (although in that day it was claimed there was no death), evil influence, stronger than the power of the gods, predominated, and the prayer of this self-appointed, ignorant priest, doctor or healer, like those of the sinner of the present time, achieved nothing. The world still moves in cycles.

If you will go to Sakkarah, some twenty miles from Cairo, and search among the step pyramids, you will find a small and unostentatious tomb, but one of deep interest to any physician. It is the tomb of Dr. Sek-het-enuanch. Dr. Sek-het-enuanch was the chief physician to the Pharaoh Sakura, who lived about 3133 B. C., and the first physician of whom we have authentic record. As represented upon the tomb, the doctor carries two scepters, the emblems of power and rule, which were alone for the highest dignitaries. He wears a panther's skin, which formed part of the dress for a noble.

The inscription on the tomb states that the doctor healed the nostrils of Pharaoh, and, as a reward, the king gave him two limestone slabs, which the temple masons inscribed.

Ebers' Papyrus is the oldest authentic history of medicine extant. This papyrus bears the date of the 16th century B. C., and was one of the most important discoveries of the 19th century.

While in Luxor, Prof. Ebers met an Arab who gave him a roll of papyrus, which it was stated had been found twenty-four years before, along with the bone of a mummy in a tomb of the Theban Necropolis, which is some miles further down the Nile.

This papyrus, which was 20 meters long, just 66 2-3 feet or four rods, and a little less than a foot wide, divided into 110 pages, contains many marvelous statements regarding medicine. The calendar, as deciphered, proves this medical work to have been written in 1552 B. C., thirty-five centuries ago. This was prior to the Exodus of the Israelites; Moses had just reached his majority. The following are the heads of chapters:

(Page) 1. Of the preparation of medicines. 24. Of salves for removing the uhan. 47. Catalogue of the various uses of the teganem tree. 48. Medicines for alleviating the accumulation of urine and diseases of the abdomen. 55. The book of the eyes. 65. Medicaments for preventing the hair turning gray and for the treatment of the hair. 66. Medicines for forcing the growth of the hair. 79. Salves for strengthening the nerves and medicines for healing the nerves. 85. Medicines for curing diseases of the tongue. 89. Medicines for the removal of lice and fleas. 91. Medicines for the ears hard of hearing. 99. The secret book of the physicians. The science of the beating of the heart and the knowledge

of the heart as taught by the priestly physician Nebsecht.

Rameses III. punished with death the sorcerer and magic healer. It is fortunate for some that Rameses III. did not reign thirty-five centuries later.

It is thought by some that the Egyptians went very extensively into specialties, that physicians confined themselves very closely to a single class of cases. It is known that there were those who gave their whole attention to the eye, probably for the same reason that there are those who do so to-day in Egypt, *i.e.*, on account of prevalence of eye diseases.

Diseases of the stomach, abdomen, and urinary bladder received much attention, as well as the nose, ear, and ulcers. The bowels undoubtedly gave the early Egyptians much trouble, and no doubt the appendix commenced on its miserable mission thousands of years ago.

Pills, potions, plasters, inunctions and inhalations were used. The last chapter of the papyrus treats of tumors, and recommends that they be tested with the finger, and generally operated; but there was one kind which became covered with pustules, and caused sharp pain—they advise no interference. This they called the tumor of the god Chensu.

Considerable attention was paid to gynæcology. On page 170 prolapsus of the uterus is mentioned thus, "A remedy to enable the uterus of a woman to return to its proper region." The remedies are, "Honey and petroleum," applied locally with finger, and the uterus pressed into place. Also the fumes of wax and hot charcoal were recommended to be allowed to penetrate the uterine cavity. Page 171—a receipt is given to enable a woman to give birth to a child, and on the next page, abortion is apparently alluded to.

Also remedies for the corrosion of the vulva, producing round pustule in the vagina; a remedy to prevent disease starting in the labia, and against shooting pains in the vagina; to prevent inflammation of uterus, which consisted of an astringent wash of palm fruit and cypress blended with oil.

"When fluid escaping from the vulva is like water"—a medicated linen pessary was introduced into the vagina and left for four days.

Vaginal suppositories were used. Vaginal and rectal injections resorted to, and fumigation not unknown.

Between the time of the writing of Ebers' Papyrus and the establishment of the Greeks in Egypt, the Egyptians retrograded and resorted to sacerdotal offerings and superstition. There seems to be a period of darkness, like that which possibly is threatening our people to-day. Was the exhibition witnessed in Chicago, but a few days ago, of a burned woman and child, whose friends, father and husband denied her rational assistance, anything less than a sacerdotal offering? A burned woman placed upon a bed or altar, around which gathered a number of ignorant, superstitious inhuman beings, asking their gods to appease suffering and heal and restore burned tissue?

Or the woman who died in childbirth in the presence of this class of fanatics, and could have been relieved by a light operation, according to the testimony of the physicians who afterward examined the body?

It is said that there are a million people in the United States who are desirous of plunging this country into the depths of darkness and degradation of the Egyptians of the 25th dynasty.—R. W. Corwin, M.D., in *Dancer Med. Times*.

AN EXAMINATION PAPER, BASED ON OSLER.—

The following examination paper, taken from the *St. Thomas Gazette*, will probably amuse our readers. The answers will all be found in "Osler's Practice of Medicine," but whether proficiency in answering them marks one as competent to practice medicine is open to doubt.

1. Who was Mephibosheth? What parental superstition dates from his time?

2. What is "one of the saddest chapters in the history of human deception?"

3. Give Osler's quotations from the following authors: John Bunyan, Byron, John Cheyne, George Cheyne, Montaigne. Explain the context where necessary.

4. Describe, if necessary, with the aid of diagrams, Kemp's double current rectal tubes. What are the indications for their employment?

5. Give in full the name of "the distinguished old Bath physician." At what period did he flourish, and what is his claim to distinction?

6. As a sequence to what therapeutic procedure did the son of Professor Langerhans die? What was the pathologic and medicolegal interest in the case?

7. What is the chief recorded complication of a lay committee meeting at St. George's Hospital?

8. Who was convinced that more wise men than fools are victims of gout? Is there any reason why he in particular should hold that view?

9. What cases drift to "museums and side-shows?"

10. How did Trousseau's patient make money?

11. What celebrated English physician preferred to die in harness? State the cause of death.

12. What internal evidence is there—

(a) That Osler has had an unhappy experience with cheap bicycles?

(b) That he is interested in the history of Napoleon Bonaparte?

13. What is O. Rosenbach's dictum on the custom of wearing stays?

14. Quote Hunter's famous advice to Jenner.

15. What was the counsel of Rondibilis to Panurge?

16. How did Eryximachus treat the hicough of Aristophanes?

17. Give the references to Lady Mary Wortley Montagu, President Jefferson, Jerome Cardan, the Elder Scaliger, Captain Catlin, Laurence Sterne, Thomas King Chambers, Robert Druitt and Colonel Townsend.

18. What did Strabo call "the lisping of the gout?"

19. Give the context of the following quotations, and make explanatory remarks if necessary:

(a) Cases are given after nearly every one of the specific diseases.

(b) I saw some years ago one of the most distinguished gynecologists of Germany perform laparotomy in a case of this kind.

(c) The doses given by the late Alonzo Clark, of New York, may be truly termed heroic.

(d) In a somewhat varied postmortem and clinical experience no instance has fallen under my observation.

(e) A history of gorging with peanuts.

(f) I have seen Murchison himself in doubt.

(g) A toad-like caricature of humanity.

(h) From the accurate view of Lænnec and Louis the profession was led away by Graves, and particularly by Niemayer.

(i) One of the most powerful enemies of the American stomach at the present day.

(j) I had a lesson in this matter which I have never forgotten.

21. Who made an autopsy on Dean Swift and what did he report?

22. What interest attaches to:

(a) The Pullman car conductor from Chicago.

(b) The Appleton-Swain family.

(c) Yellow cakes at Philadelphia.

(d) Chancellor Ferrier.

(e) Master McGrath.

23. Who had a translucent head? What was the pathology of the condition?

NAUGHTY CHILDREN.—It would be difficult to overestimate the importance of the subject dealt with by Dr. Still in the Gulstonian Lectures recently delivered before the Royal College of Physicians, under the somewhat wide and indefinite title of "Some Abnormal Psychical Conditions in Children." It has long been recognized that defective moral control is apt to occur in association with those disorders of intellect which are ordinarily recognized as idiocy, imbecility, or insanity, and no one doubts the morbid nature of the moral defect in these cases. Whether it be regarded as dependent upon the intellectual failure or not, it is clearly part and parcel of the malady, and according to our conception of the processes going on in disorder of mind, so will be our conception of the associated disorder of the moral sense. If the one be regarded as due to disease or imperfection of brain tissue, so also will the other. But children are occasionally met with who exhibit defects of moral control precisely analogous to those which occur with admittedly morbid brains, yet who, so far as ordinary tests go, pass for children of normal intellect; and the question is whether these naughty children are not naughty because of defect in the physical substratum of morality, if we may use such a phrase, just as imbeciles are defective in the physical substratum of intellect. For a definition of the term moral control, Dr. Still adopts the statement that it is "the control of action in conformity with the idea of the good of all," which at any rate is sufficiently comprehensive, and he specially warns us that he by no means limits the terms "moral" or "immoral" to sexual relations.

Although defect of moral control is very often seen in connection with idiocy or imbecility, it is to be noted that there is little relation to be discovered between the degree of the defect on the intellectual and the moral sides. The drivelling idiot who recognizes no one, does not distinguish his food, and is a mere automaton, is, of course, devoid of the higher attribute which we term moral control. But when we come to the higher grades of imbeciles, in which some comparison of the various faculties is possible, it is obvious that just as the defect in the more intellectual faculties is by no means evenly distributed, so that, for example, a child who may be able to perform wonderful arithmetical tricks may be almost an idiot in other directions, so there may be, and indeed is, no relation whatever between the degrees of defect exhibited in the intellectual faculties and in the moral control. In Dr. Still's words, "whilst defect of moral control is often associated with general impairment of intellect, there is no constant proportion between them." Thus, although it is probably true that cell-modification dependent upon interference with cell-nutrition is the physical basis of moral defect, this modi-

fication must occur in the finest processes and be something quite different from such gross lesions as, for example, are found in certain cases of idiocy. Dr. Still then goes on to consider the cases in which morbid defect of moral control occurs in relation with physical disorder, and shows that such defect may arise not only from arrest or delay in its development by physical disease occurring in infancy, but that, even after considerable progress has already been made in its development, it may be lost to a greater or less degree as the result of physical maladies, particularly lesions of the brain and certain febrile conditions, and this even in cases in which the intellect appears intact.

Can we not then go further and place certain incorrigibly naughty children in the same category, as the victim of morbid brain tissue, even though they show no sign at all of defective intellect? There are children who lie and steal without reason, are cruel to animals, are dangerous to leave with other children lest they should injure them, and who commit the same misdemeanor time after time within a few hours after punishment, notwithstanding that they may have been greatly affected by the punishment at the time; yet these children may show no sign of intellectual deficiency. Surely the defect of moral control in such cases, whatever be its cause, is of the same nature as that so frequently seen in cases of obvious intellectual deficiency. But Dr. Still goes further and shows that defect of moral control, while sometimes permanent, may be only temporary, in some cases passing away after an outburst never to return, while in others periods of defective moral control may alternate with periods in which no such defect is present. Here we seem to come to the brink of a moral insanity and it would be easy to follow the lead given by Dr. Still, and to discuss the question of the relation not only of some of the acute forms of insanity but of these cases of defective moral control in children, with the presence of toxins in the blood and their injurious action on those finer nerve couplings which are brought into operation in all mental action, including the moralities. The matter is one of much practical interest. In regard to the more temporary attacks of moral defect, modern pathology by its teaching in regard to toxins would seem to give much support to the method of the old school-master who said that when he found a boy incorrigibly naughty he had recourse to Gregory powder; while in regard to the general scheme of education to be adopted in the case of naughty children one cannot but feel, in view of the marvellous improvement which is produced in the intellectual faculties by early and judicious teaching, that perhaps an equally careful training of that residuum of moral control which is still to be found in all, might rescue some of those passionate, spiteful, lawless, shameless children, whose condition is allied to moral imbecility, from the sad future that is before them.—*The Hospital*.

PORK AND PIETY.—"They have no sense, men haven't," said Mrs. Hankey; "that's what is the matter with them." "You never spoke a truer word, Mrs. Hankey," replied Mrs. Bateson. "The very best of them don't properly know the difference between their souls and their stomachs, and they fancy they are wrestling with their doubts when it is really their dinners that are wrestling with them. Now, take Bateson himself," continued Mrs. Bateson. "A kinder hus-

band or better Methodist never drew breath, yet so sure as he touches a bit of pork, he begins to worry himself about the doctrine of election till there's no living with him. And then he'll sit in the front parlor and engage in prayers for an hour at a time, till I say to him: 'Bateson,' says I, 'I'd be ashamed to go troubling the Lord with a prayer, when a pinch of carbonate of soda would set things straight again.'"—*The Farringdons*.

THE OLD OAKEN BUCKET—A HYGIENIC VIEW.—With what anguish of mind I remember my childhood.

Recalled in the light of a knowledge since gained.

The malarious farm, the wet fungus-grown wild-wood,

The chills then contracted that since have remained;

The scum-covered duck-pond, the pig-sty close by it.

The ditch where the sour-smelling house drainage fell,

The damp, shaded dwelling, the foul barnyard nigh it—

But worse than all else was that terrible well, And the old oaken bucket, the mold-crust-ed bucket,

The moss-covered bucket that hung in the well.

Just think of it! Moss on the vessel that lifted

The water I drank in the days called to mind; Ere I knew what professors and scientists gifted

In the waters of wells by analysis find;

The rotting wood fiber, the oxid of iron,

The algæ, the frog of unusual size.

The water, impure as the verses of Byron,

Are things I remember with tears in my eyes.

And to tell the sad truth—tho' I shudder to think of it—

I considered that water uncommonly dear.

And often at noon, when I went there to drink it, I enjoyed it as much as I now enjoy beer.

How ardent I seized it with hands that were grimy.

And quick to the mud-covered bottom it fell,

Then reeking with nitrites and nitrates, and slimy

With matter organic it rose from the well.

Oh, had I but realized in time to avoid them—

The dangers that lurked in that pestilent draft—

I'd have tested for organic germs and destroyed them—

With potassic permanganate ere I had quaffed.

Or perchance I'd have boiled it, and afterward strained it

Through filters of charcoal and gravel combined;

Or, after distilling, condensed, and regained it

In potable form, with its filth left behind.

How little I knew of the enteric fever

Which lurked in the water I ventured to drink, But since I've become a devoted believer

In the teachings of science, I shudder to think.

And now, far removed from the scenes I'm describing,

The story of warning to others I tell.

As memory reverts to my youthful imbibing

And I gag at the thought of that horrible well, And the old oaken bucket, the fungus-grown bucket—

In fact, the slop bucket—that hung in the well.

—J. C. Bayles.

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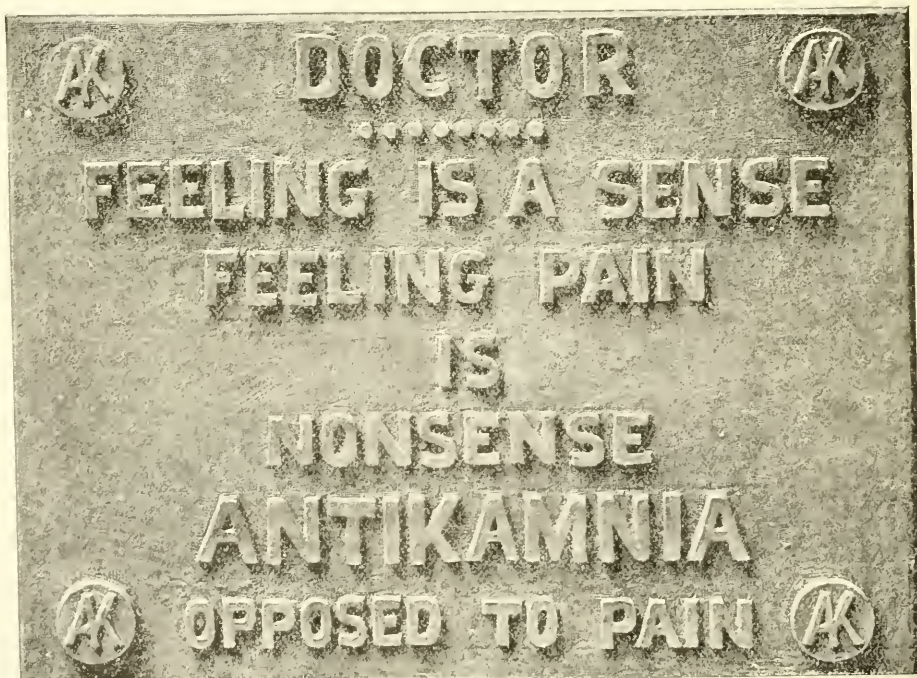
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The Growing Appreciation of the Importance of Therapeutics

HE who is on the lookout for the little straws that show which way the wind blows, and takes interest in discerning and interpreting the signs of the times, cannot fail to have noticed the healthy, hopeful, and promising direction in which latter-day medicine is moving—a direction which is bound to result in a grand and glorious future. It is not mere verbiage, but it is a fact which can only be denied by those who have not studied the subject, that medicine is throwing off its garb of exclusiveness and bigotry, is ready to lend its ear to and act upon every reasonable suggestion, is fully recognizing the paramount importance of prevention, and, most important of all, medicine is again coming to recognize—it seemed to have been forgotten for a time—that its real mission in this world, its very *raison d'être*, is the prevention, alleviation, and cure of disease. In other words, it is recognizing that all branches of medical science, such as anatomy, physiology, pathology, bacteriology, materia medica, etc., are of value only in so far as they bear upon and elucidate the very aim and goal of medicine; namely, therapeutics. Taken *per se*, some of the medical branches are of no value to mankind. They are neither useful nor ornamental; they are not even interesting.

But it is not so long since this truth began to become apparent. The microtome, and the microscope, and the dead-house

had been occupying so much of the time and the attention of the European student that the bedside was necessarily neglected, and therapeutics was relegated to a secondary place. And the wave of therapeutic nihilism which originated in central Europe also reached the United States, where for quite a long time it held almost undisputed sway. But we had to pay dearly for the neglect of therapeutics and our therapeutic nihilism. As we said, in effect, at the meeting of the American Medical Association which has just closed: There is no effect without its cause. The flourishing condition of the various forms of quackery, the growth and development of the osteopaths, the Christian scientists, magnetic healers, electric quacks, etc., must have some fundamental cause, and it will not do to ascribe that cause to the stupidity of the people and to that exclusively. It is true, the public as a whole is illogical, frequently reasons from false premises, and not less frequently arrives at false conclusions; but all these factors are to be regarded as predisposing causes merely. We must still find the exciting, determining cause, which will account for the people so frequently deserting the regular medical profession and running after false gods, which are in most instances nothing but wooden idols. Even the love of mystery and mysticism, or, in Barnum's words, "the love to be humbugged," will not account for it. There is

a deeper cause, and that cause is, in our opinion, a real dissatisfaction with the medical profession.

To what is that dissatisfaction due? The causes are many, and we will not enter upon their enumeration in this place; but we are fully convinced that one of the principal causes is the neglect of every-day therapeutics. It has been said many times before, but it cannot be repeated too often, that too much time has been devoted to pathology and bacteriology, and too little to the treatment of disease; too much attention has been paid to the germ and too little to the soil; too much time has been spent in the dead-house and too little in the sick-room; too much time and energy have been spent on abstruse speculation and too little on the gathering of facts; too much time has been devoted to rare affections and curiosities and too little to the ordinary every-day diseases and minor ailments.

But, as we said above, a healthy change is taking place. In the discussions at the recent meeting of the American Medical Association one could notice that the importance of therapeutics as a branch of medicine and a branch of medical study was beginning to be appreciated. The teachers from several colleges present stated that while materia medica and therapeutics had always been considered somewhat of a step-child, but limited time being devoted to it in one or two sessions, it now took its place among the most important branches and is being taught throughout the four years' course. And what is more, it is being taught in a practical manner, the abstruse pharmacological part—how the drug acts on the frog's heart, or on dogs or rabbits—being relegated to a secondary place. The text-books on medicine also devote more space to therapeutics. Those medical meetings have the largest attendance in which the paper treats of practical subjects, the treatment of disease. The medical annuals devote more and more space to the subject, and so do the medical journals; while the journals that are specially devoted to therapeutics reach the largest circulation. And it is a very hopeful sign that many of the journals that were ultra-scientific

in their tendencies are changing their tone, acknowledging that the art in medicine, the art to alleviate suffering and cure illness, is more important than the science. Great and important as are the sciences of anatomy and physiology, voices are being heard now demanding that they be taught only as far as they have practical bearing upon treatment, medical or surgical. Says the *Edinburgh Medical Journal*, a publication of the higher class:

"The time is not far distant—if indeed it is not actually at hand—when those engaged in the teaching of anatomy and physiology to students of medicine will have to consider the position which these subjects are to hold in the medical curriculum, and in their relations to medicine and surgery.

"The present tendency is to teach these subjects as abstruse sciences, far beyond the heads of the auditors, and altogether apart from their practical bearings. Paradoxical as it may sound, it is nevertheless true that the modernly trained student knows nothing of either the elements of physiology or of its practical relations to medicine; whilst the same may be said of anatomy, more particularly of anatomy as applied to surgery.

"It is hard to realize that a practitioner of medicine is better equipped for the battle of life by his having been taught . . . the origins and insertions of the muscles of the back, the history of physiology from the time of Eve, the poking of electrical needles into an alarmed frog, and so forth. Yet all this and more is gravely insisted upon, and the medical profession makes no protest, beyond wondering over an evening pipe why a student is ignorant of all that pertains to the practice of his profession."

And on the subject of pharmacology the same journal has the following to say:

"Pharmacology is merely an adjunct to therapeutics, and has no practical value for medical practitioners, and no legitimate place in the medical curriculum of the schools, except what is derived from any bearing it may have on clinical therapeutics and the principles of treatment. As soon as pharmacological research goes outside this, it becomes merged in the great science of biology, and is as much apart from practical medicine as are physics, botany, zoölogy, or chemistry."

With all of which we fully agree. We have always held these opinions, and it is pleasant to see that they are beginning to be shared by the leaders of our profession.

[Contributed to MERCK'S ARCHIVES]

THERAPEUTICS OF THE GLYCEROPHOSPHATES¹

By H. A. West, M.D., Galveston

My attention having been recently drawn to the use of the glycerophosphates of lime and soda in the treatment of several cases of nervous and other troubles, I wish to mention the chief clinical features of a few cases in which I have had occasion to exhibit the remedy. I trust that you may be sufficiently interested to try it in similar cases and give the association the result of your observations. It is only by united action that the power for good of new remedies can be established.

Case I.—Mrs. S., a young woman about twenty-five years of age, was brought to me for treatment on February 27, 1901. The word *brought* is used in its literal sense, for she was conveyed upon a litter in a baggage car, presenting a deplorable picture of physical and mental prostration. Her physician and husband gave briefly the following history: There was no record of hereditary nervous disease in the patient's ancestry; no cause could be ascertained for her condition, after searching inquiry. She had been happily married for four or five years, was childless, had suffered somewhat from dysmenorrhea and had several attacks of malarial fever. There had been no other sickness beyond the ordinary diseases incident to childhood. She had a delicate physical frame and highly nervous temperament. The present illness began about three months before she was brought to Galveston. The more prominent symptoms were anorexia, insomnia, progressive loss of strength and flesh, a mild continued pyrexia, ending in complete hebetude, and the condition now to be described. The patient was apparently profoundly oblivious to all external impressions. She would swallow when food was placed in her mouth, but never asked for food or drink. Life had been sustained for several weeks by the use of liquid peptonoids. The excretions from the bladder and bowels were passed involuntarily. The tongue was red and tremulous. Emaciation was extreme. Physical examination of thoracic, abdominal, and pelvic viscera negative. Chemical and microscopic examination of the blood and urine, negative. The temperature ranged at about 101°; pulse 120. There was nothing in the history of the case, or present condition, to warrant a diagnosis of typhoid fever. As the patient progressed towards recovery the temperature and pulse became gradually normal. When she became conscious and able to reply intelligently to questions, hallucinations of sight and hearing were found to have been present. A diagnosis of melancholia was made by a gentleman who claims to have special knowledge of nervous diseases. Without going into the question of diagnosis, it is sufficient to say that it was one of those border-line cases difficult to define accurately. As the indications for treatment were clear, the name of the disease was not considered to be of great importance. The patient had been kept under the influence of codeine for several weeks. This was immediately interdicted. Measures were taken at once to increase the supply of food. The patient was placed in the hands of a

good trained nurse. Without going into details, it is sufficient to say that the usual measures resorted to in such cases were carefully executed: viz., forced feeding, massage, hydrotherapy, rest, and suggestion. Various hypnotics were used in place of codeine. Sulfonal was fairly satisfactory. These measures, in addition to a general tonic containing iron, quinine and strychnine were kept up for several days. Improvement was progressive but gradual. Finally, my attention was called to the glycerophosphates of lime and soda. The effect of tablespoonful doses of an elixir of these salts, given three times daily, was, to say the least, remarkable. It seemed to go to the right spot at once. The patient was able to sleep without the use of a hypnotic. Improvement was rapid in every respect; recovery was so far advanced that the lady was enabled to return home, and I was informed by her husband that restoration to perfect health shortly ensued.

Case II.—Melancholia. Miss V. G., aged twenty-five, came under my observation Nov. 3, 1900. The characteristic symptoms of melancholia of pronounced type were present. Insomnia, headache, mental depression, melancholic fancies, suicidal and homicidal tendencies, coated tongue, anorexia, obstinate constipation, cold, flabby, moist skin, and suppressed menstruation. Physical examination of thoracic, abdominal, and pelvic viscera negative. The pelvic organs were carefully examined under an anesthetic and nothing but an insignificant endometritis was found. This fact should be emphasized as a prominent laparotomist (so-called) had promised a cure, upon removal of an ovary. The treatment advised was about as follows: To avoid introspection as much as possible, exercise in the open air, and congenial and useful occupation about the house. Nutrition was to be improved by increasing the quantity of easily digested food, as much as the patient could assimilate. A daily evacuation of the bowels was induced by the nightly administration of a pill containing: Resin podoph., gr. $\frac{1}{2}$; aloin, gr. 1; ext. nucis vomice, gr. $\frac{1}{2}$, and ext. belladonnæ, gr. $\frac{1}{6}$. Sleep was produced by giving a nightly dose of chloral hydrate. As a general tonic, an elixir of phosphate of iron and strychnine was given three times daily. Under the use of the measures there was slow improvement. Early in January the patient was sent to San Antonio. There she received electrical and local uterine treatment. She returned to Galveston in September. While there had been some gain in weight and the mental condition was better, still the patient was far from recovery. She still had strong hypochondriac delusions, disposition to commit suicide, and had to be constantly watched to prevent her from doing so. At this time I prescribed the glycerophosphates; the effect was as immediate and as well pronounced as in the case of Mrs. S. I was enabled to dispense with the nightly hypnotic, the patient improved rapidly in every respect, and at this time (January, 1902), she is entirely well, with the exception of scanty menstruation. She would hardly be recognized as the same person. She weighs more than she ever did, her complexion is clear, eyes are bright, suicidal impulses and delusions gone. The effects of the glycerophosphates in this case are specially pronounced, from the fact that all the other well-known methods of treatment had been given a fair trial.

Case III.—Arteriosclerosis, with chronic interstitial nephritis. D. R. H., aged sixty-five. This gentleman I had noticed several months before he consulted me. I had noticed the great emaciation, the yellowish skin, cadaveric appearance

¹ Read before the Medical Association of Texas.

and suspected tuberculosis or diabetes. When he consulted me, however, on September 10, I found evidence of contracted arteries and kidneys. This patient was in a condition bordering upon uremic dementia. He was perfectly content to lead a merely vegetative existence—to eat and sleep. He could only be gotten out of bed to eat and took no interest in anything. The emunctories were made to act more freely. The diet was regulated, milk and farinaceous food was substituted for the excess of nitrogenous food he had been taking. The glycerophosphates were ordered. A gradual but positive improvement was soon noticed. Whether due to the new regimen or whether the above-named remedy by a reconstructive action upon the cerebral cells, stimulated general nutritive processes, I shall not attempt to say. I will remark only that the patient is now able to be out, takes some interest in earthly affairs, and his physical and mental condition have vastly improved.

Case IV.—Mrs. M., aged thirty-five. Grip, complicated by apical pneumonia and neurasthenia. Had had an attack of epidemic influenza. I found physical signs of pneumonic infiltration of the right apex. There was an almost constant cough, with very little expectoration. The patient had been abroad during the summer, and though she had received every possible care and attention, and had consulted several specialists, she returned to this country in a worse condition than when she left. She had lost flesh and exhibited all the symptoms of neurasthenia of gastric type. There was a floating kidney. A New York stomach specialist had made a diagnosis of gastrectasis. Without going into details of symptomatology and treatment, it is sufficient to mention the salient points of the latter. The diet was carefully adapted to the enfeebled digestive powers. The glycerophosphates, t.i.d., before meals, and essence pepsin, with $\frac{1}{32}$ grm. strychnine after meals, were administered. Improvement was rapid and progressive. The patient was sent to Colorado to forestall possible development of tuberculosis, to which her family is prone, and was apparently restored to excellent health. Neither the stomach nor the kidney complications gave rise to any symptoms.

Cases V, VI and VII were mild types of neurasthenia, and were speedily cured by the exhibition of the glycerophosphates.

Case VIII.—Mrs. S., aged forty-five, consulted me January 15, 1902. Mother of one child. This patient was possessed with the idea that she had serious ovarian disease and that an operation would be required. The prominent symptoms present were mental and physical debility, headache, insomnia, nausea, vomiting, and disposition to faint. The muscles were flabby, the skin lax and pale. Examination of blood and urine negative. Physical examination of thoracic abdominal and pelvic viscera negative. She could hardly be convinced that an operation upon her uterus or ovaries was not necessary. She was placed in charge of an excellent trained nurse, and a modified plan of rest cure, with forced feeding, hydrotherapeutics, and massage adopted. The only medicine given was the glycerophosphates. The improvement began at once. The vomiting and attacks of faintness, which had been most distressing symptoms, were relieved almost as if by magic. The patient was in a few days taking and digesting more than three times the amount of food that she had been able to eat previously. For various reasons of a domestic nature, I was unable to detain her longer than two weeks, the result being less satisfactory than if she could

have remained longer. Since her return home the treatment has been kept up as well as possible, but the improvement has not been so rapid or progressive. She is, however, free from the severe symptoms and is still under observation.

While treatment in the above mentioned cases was not confined to the use of the glycerophosphates, yet the evidence as to its value is of such positive nature that it can not be ignored.

Before speaking of the *modus operandi* of the remedy, it is well to refer briefly to the etiology of the forms of nervous diseases in which it appears to have special therapeutic power; viz., neurasthenia in its various forms, melancholia, toxemic conditions, and debility following various acute infections, as influenza, typhoid fever, etc. It is also well to emphasize the causative connection between various neuroses as explanatory of the method by which the remedy produces its effects. In a recent article on the "Acute Psychoses," by Dr. C. E. Riggs,¹ of St. Paul, Minn., the subject is so clearly and succinctly presented that I may be excused in quoting him. He proceeds to mention Dr. Clouston's theory that "insanity is due to perverted nutrition of the cortical cell."

"So-called hereditary tendency simply means that the cell metabolism is more unstable than normal. It may be stress and heredity, or it may be toxemia with or without heredity, which gives rise to the perverted brain functioning."

"The general practitioner is familiar with the mental features characteristic of toxic states, such as Bright's disease, diabetes, the fevers, pneumonia, the puerperal post-operative and post-influenzal insanities; also those of the poisons, chloral, opium, alcohol, cocaine, etc. He well knows that the insanity is toxic, and chemistry and bacteriology teach him not only the origin, but the most approved method of treatment as well."

"An impoverished nutrition in one having the insane diathesis does not necessarily mean insanity; it may result in one of the neuroses, such as neurasthenia, hysteria, chorea, or epilepsy. Given inherent nervous defect, the pathologic resultant may be either a neurosis or a psychosis. Perverted cellular nutrition is the basic cause of the pathological findings in insanity, such as morbid changes in the cells themselves, increase of the neuroglia, degeneration of the blood vessels, and the pathological changes of the membranes, the skull, and scalp. The fundamental fact, then, which we have to consider is that of cell nutrition. Prevention of the metabolic derangement is the one

¹ *Jour. Amer. Med. Assoc.*, Nov., 1901, p. 1374.

thing of supreme importance. This is much easier of accomplishment in its beginning than after the complete evolution of the disease; it is for this reason that I place so much stress upon the importance of the early recognition and treatment of mental diseases."

Dr. Jas. H. McBride, of Los Angeles, Cal., called attention to the same facts in a recent article upon the management of the neurasthenic. He says: "Many neurasthenics have one primary cause for their disorder that in a measure modifies the effects of even their environment, a cause that lies deeper than any individual life experiences. That cause is found in an inborn instability of nerve element, some organic defect in its essential structure, which makes many men and women unequal to the strain of adverse conditions, sending one to the bed of a nervous invalid, another to the hospital for the paralyzed and epileptic, another to the mad-house."

The same writer expresses the etiological relation between neurasthenia and insanity as follows: "In all cases of neurasthenia there is the mental element which is always an important part of the disease, in some cases the most important part. It is shown in inability to fix the attention, the feeling of mental tire, the loss of interest, the weakening of volition, the impairment of memory, and other phenomena that are only too familiar. The general functional disorder of the nervous system which, with its endless train of symptoms, is always present and uppermost in the patient's consciousness, fixes the mind upon the body and tends to limit the patient's thoughts to a certain set of morbid sensations. The normal interests are dropped one by one; more and more the thoughts revolve about the sensations of the body, until finally the attention is centered there. This hyper-consciousness of bodily ailments may become a true hypochondria, and many neurasthenics pass into this more pronounced morbid condition, while others become insane. These are among the cases of neurasthenia that to be cured need the moral discipline, the restful change, and the limited environment of seclusion."

The prominent facts are brought out in the above quotations (which doubtless represents the consensus of recent opinions upon the subject): (1) That the fundamental pathological condition underlying insanity and allied conditions consists in a perverted nutrition of the cerebral cells. (2) The interchangeable causal relations between the neuroses and psychoses. The causes underlying the malnutrition of the

cerebral cells are various but may be embraced in toxemic conditions, impaired oxygenation, and destructive metamorphosis from the acute and chronic infections.

The use of the glycerophosphates in the treatment of neurasthenia and similar conditions was first advocated by Dr. Albert Robin, of Paris, in 1894. This observer was led to the study of the action of an organic combination of phosphorus by noticing in the urine of certain neurasthenics an excess of imperfectly oxidized phosphorus, and concluded that the same originated from a retrograde metamorphosis of the neurolecithin, the latter entering into the composition of all cells, but especially those of brain and nerve tissue.

Whether the action of the glycerophosphates is due to a reconstruction of the cerebral cells by supplying phosphorus in an easily assimilable form, or whether the remedy has an oxygen-conveying capacity also, cannot be determined at present.

The cases herein cited, however, certainly seem to demonstrate the value of its therapeutic powers, and would seem to warrant a much wider field of usefulness for it: viz., sexual debility and functional impotence, premature senility, debility subsequent to typhoid fever, dengue, epidemics, and influenza. In these last-mentioned acute infections there occur mental and physical prostration to such an extent as would seem to imply an acute neurasthenia, which could be accounted for by the probable destructive influence of the toxins upon the cerebral cells. I have no doubt but that the glycerophosphates would produce the same effects in such cases.

[Written for MERCK'S ARCHIVES]

A MONOGRAPH ON THE USE OF CINNAMIC ACID AND SODIUM CINNAMATE IN THE TREATMENT OF TUBERCULOSIS

By William J. Robinson, M.D., New York

Member of the American Medical Association; of the New York State Medical Association; of the New York County Medical Society; of the German Medical Society; of the Harlem Medical Association, etc.

THE disease that wipes entire families off the face of the earth; that is present in every clime and in every zone; that respects neither age, sex, social position, nor environment; that shows itself in a variety of forms, and causes prolonged suffering and agony; the disease that in every table of mortality-statistics has the place of honor, and that up to within a few years ago performed its ravages unabated, showing itself indifferent to any kind of treatment, and that still continues to look down

with disdain upon specifics—that disease is tuberculosis. It is, therefore, not to be wondered at that any remedy, whether heralded as a sure cure or simply as a useful adjuvant in that dread disease, will continue to receive the earnest attention from medical men, especially so if the remedy has a respectable godfather.

Cinnamic acid in tuberculosis is not, strictly speaking, a new remedy, as it has been used in Germany for over fifteen years. In this country it has had but a very limited use. Recently, however, it seems to have begun to excite more attention, and it therefore seems not to be out of place to give a résumé of the results obtained by the use of this drug by practitioners in different countries.

My personal experience with sodium cinnamate has not been sufficient to pronounce any opinion *pro* or *con*, chiefly because I have used it in combination with other drugs, such as sodium cacodylate, the glycerophosphates, guaiacol and its derivatives, etc. It is therefore impossible to say just how much credit should be ascribed to that drug in question. One of my patients had been treated with intravenous injections of sodium cinnamate exclusively—as far as drug treatment is concerned—and the improvement has been truly remarkable. But as the treatment was pursued in one of the best sanatoria in Switzerland, it is again difficult to determine just how much benefit to ascribe to the drug and how much to the fresh air, nutritious diet, hygiene, freedom from care, etc. It is proper, however, to add that for a year the patient has been back in New York, pursuing her ordinary occupation, and she is feeling quite well. I would not state that the tuberculosis is cured, but she has been freer from any subjective symptoms and objective signs than for many years before she underwent the treatment.

PREPARATION; CHEMICAL AND PHYSICAL PROPERTIES

Cinnamic acid may be prepared, and originally was prepared, by distilling storax with an excess of caustic soda. Styrol (C_8H_8) and cinnamic alcohol (C_9H_9OH) distil over, and sodium cinnamate remains in the residue. The latter is diluted with water, and the solution filtered; on adding hydrochloric acid, cinnamic acid crystals separate out. The crystals are purified by washing with water, dissolving in a solution of ammonium carbonate, again adding hydrochloric acid, dissolving the precipitated crystals in hot water, filtering, and again crystallizing. It may be obtained

similarly from balsam of Peru and balsam of tolu. It may also be obtained by oxidizing oil of cinnamon (which is chemically cinnamic aldehyde) with nitric acid. At present the acid is prepared almost exclusively by synthesis: by heating benzaldehyde with acetyl chloride in a closed vessel. The reaction is: $C_6H_5CHO + CH_3COCl = HCl + C_6H_5CH=CHCO_2H$. The empirical formula of cinnamic acid (also called cinnamylic and phenyl-acrylic acid) is $C_9H_8O_2$. It is a monobasic acid, and unites with bases to form salts which are called cinnamates. One gram of cinnamic acid requires 6.7 Cc. of normal soda solution for neutralization. Physically it occurs in the form of small, colorless or white, easily pulverizable crystals, of a silky luster, odorless or of a very faint aromatic odor; its taste is slightly acid; very slightly soluble in water (1:3500), easily soluble in alcohol and fixed oils.

Sodium cinnamate ($NaC_9H_7O_2$ —also known under the synonym *hetol*) which is produced by carefully neutralizing cinnamic acid with caustic soda, is in the form of a fine white powder, and for practical purposes has the great advantage over cinnamic acid in being readily soluble in water. It is practically devoid of all taste.

HISTORICAL

The honor of having introduced sodium cinnamate into the therapy of tuberculosis belongs to Prof. Albert Landerer, of Stuttgart.

It is now twenty years since he began his experiments, clinical and pharmacological, with substances containing cinnamic acid, though his first report¹ on the subject appeared only six years later, or in 1888. The use of sodium cinnamate came about by gradual evolution. The first substance used was an emulsion of balsam of Peru. The difficulty of preparing and preserving this emulsion and the inconveniences accompanying its injection led Landerer to look for a substitute for balsam of Peru, and cinnamic acid, being the most active constituent of the balsam, was selected. This was in 1890. At first cinnamic acid prepared from storax, but later the synthetic product only, was used. The use of cinnamic acid did not obviate all difficulties: as it is insoluble in water, and as it could not be administered intravenously in an alcoholic or ethereal solution, recourse was again had to an emulsion. This emulsion was prepared by rubbing up the cinnamic acid in olive or almond oil, and then emul-

¹ "Eine neue Behandlungsweise tuberculöser Processe," von A. Landerer. *Münch. med. Woch.*, 1888, Nos. 40, 41.

sifying with yolk of egg and a physiological salt solution. This emulsion possessed many drawbacks: it could not be sterilized properly, it had to be made fresh very frequently, it sometimes contained crystals that gave rise to irritation, and the acid reaction of the emulsion was by itself a cause of irritation. This acid reaction Landerer later neutralized by adding a solution of caustic soda, until the emulsion was neutral or slightly alkaline. From neutralizing an opaque unstable emulsion of cinnamic acid with soda, to the use of aqueous solutions of pure sodium cinnamate was but one step. Still about five years passed before that step was taken. Since 1895 he used only sodium cinnamate in aqueous solutions, and that is the only drug that is at present employed. Even where we speak of cinnamic-acid treatment of tuberculosis, a cinnamate is understood, because the cinnamic acid is neutralized with an alkali. Thus, in Hoff's treatment, it is neutralized with potassium carbonate, and potassium cinnamate is formed.

THE TECHNIQUE OF THE INJECTIONS AND THE DOSAGE

The strength of the solutions used for intravenous or muscular injections is either 1 per cent. or 5 per cent. The vehicle used is either pure water or, better, a 0.7 per cent. (physiological) solution of sodium chloride. Only the synthetically prepared sodium cinnamate of the highest medicinal purity should be employed. The solution should be perfectly clear (filtered when necessary) and have a neutral or slight alkaline reaction. Solutions having an acid reaction should be rejected. Before using, a small amount of the solution is put in a wide-mouthed, amber-colored bottle—loosely stoppered with absorbent cotton wrapped in gauze—and is sterilized on a water-bath for five minutes. The hypodermic syringe should be used for no other purpose except the cinnamic injection and should be boiled, or at least thoroughly rinsed, with hot, boiled water before using. It is best kept constantly in sterilized water or saline solution.

The needles employed should be of rather large caliber and should be put in alcohol for half an hour before being used; immediately before use they are rinsed with saline solution. To make the injection a rubber bandage is applied above the elbow, snugly but not too tightly; the region of the elbow or of the cephalic vein is cleansed vigorously with a piece of cotton saturated in ether. This not only serves the purpose of cleansing, but also makes the veins more

prominent. The patient's arm rests on a wedge-shaped pillow (with the base of the wedge toward the patient's body), the elbow being strongly extended. The syringe is held parallel with the long axis of the vein, the needle is inserted into the vein at a very acute angle, almost parallel with it, and the fluid is slowly evacuated, by gentle pressure of the thumb on the piston. If the vein has been entered, the needle moves about freely, the fluid is emptied readily and disappears at once without causing any swelling. The rubber bandage is removed at once and a piece of sterilized or sublimate cotton is put on the puncture and kept in place by a few turns of bandage. This may be removed in an hour. If one feels he has not entered the vein, it is best to withdraw the needle and reinsert it. A properly performed intravenous injection is painless; but if the liquid is injected into the coats of the vein or into subcutaneous cellular tissue, a painful swelling results; this however, disappears in a few hours under the application of cold compresses. No after-effects make, or should make, their appearance after the injections, according to Landerer. Only, in nervous women he noticed occasionally a feeling of malaise on the day of the injection. Other observers, however, report the occasional appearance of nausea, dizziness, weakness, etc. Some authors, like Ewald and Mann, report drowsiness, but this result Landerer ascribes to too large doses, or to the fact that in Ewald's cases the syringe had been rinsed with a carbolic-acid solution, immediately before injection. In performing gluteal injections, the same precautions are necessary; care must be taken to avoid the sciatic nerve and the gluteal vessels.

The commencing dose should be small. Only after the leucocytes and the connective tissue have fenced off the tubercular foci (four to six weeks) is it permissible to use large doses. Beginning at once with large doses, we run the risk of causing such an excessive serous exudation around the foci that living tubercle bacilli may be carried along into the circulation.

In uncomplicated, not too far advanced cases, with a normal or subnormal temperature, but slight destruction of tissue and general condition pretty good, the commencing dose should be 1 milligram ($\frac{1}{64}$ grn.). Each injection is increased by $\frac{1}{2}$ mg. ($\frac{1}{128}$ grn.), until about 15 to 20 mg. ($\frac{1}{4}$ to $\frac{1}{3}$ grn.) are reached. For women 10 to 15 mg. ($\frac{1}{6}$ to $\frac{1}{4}$ grn.). The injections are repeated every other day, or three times a week. Without positive indications, the dose should never exceed 25 mg. If the

dose is below 9 mg. ($\frac{1}{7}$ grn.), the 1-per-cent. solution should be used; for higher doses, the 5-per-cent. is preferably employed.

If a rise of temperature makes its appearance after an injection, it is a sign that the dose was too large.

In ordinary, not far advanced cases, the râles disappear and the expectoration becomes free from bacilli at about the end of three months, as a general rule. In dispensary patients the same results are obtained in about four and a half to six months. The same is the case when the injections are gluteal and not intravenous. In gluteal injections the doses may be $\frac{1}{3}$ to $\frac{1}{2}$ larger.

Great care must be taken where there is tendency to hemorrhage. After a considerable pulmonary hemorrhage we must wait at least fourteen days, and the sputum must have been at least eight days free from traces of blood, before resuming the injections. The commencing dose should be small— $\frac{1}{2}$ mg. or $\frac{1}{128}$ grn. If there is high fever, the injections should be discontinued until the temperature is normal or at least not above 100° F.

In galloping consumption, or in cases with cavities and high fever, sodium cinamate is contra-indicated.

THE RATIONALE OF THE ACTION OF SODIUM CINNAMATE IN TUBERCULOSIS

Few physicians would have the courage to come out with a remedy for tuberculosis without being able to offer an explanation of the *modus operandi* of the drug. Simply claiming good clinical results, seems to be insufficient at the present time. In tuberculosis especially so many empirical remedies have been offered from time to time, and the disease is subject to so many spontaneous improvements and remissions, that a rationale of the action is a *sine qua non* before the drug can hope to receive even a trial at the hands of the profession. Landerer's explanation of the action of sodium cinamate is very ingenious, very plausible, and, what is more, is borne out, in the essential details, by experiments on animals, and to a certain extent also on human beings. Briefly stated, the rationale of the action of the drug is as follows: When injected intravenously or intramuscularly, sodium cinamate produces a strong general leucocytosis. The leucocytosis is especially prominent around the diseased tissue—the tubercular foci. A wall is formed around them which shuts them off from the healthy portions of the lung; this wall consists of connective or fibrous tissue,

which gradually contracts and thus obliterates the diseased focus. As is seen, this is the method by which spontaneous or natural cure takes place; only under the action of sodium cinamate the process is much more rapid. That an increased leucocytosis does take place, has, as we said before, been demonstrated by direct experiments. Thus, in a rabbit, the number of leucocytes rose from 8000 to 31,000 in four hours; in the human subjects it frequently rises to 20,000 per cubic millimeter. It is interesting to note that the spleen seems to play the principal rôle in this increased leucocytosis, because, if the spleen be removed, even large doses of sodium cinamate cause but a very slight increase in the number of leucocytes. Pieces of tissue removed from tuberculous larynges of patients under sodium cinamate treatment show a considerable increase in the amount of connective tissue.

(TO BE CONCLUDED)

[Written for MERCK'S ARCHIVES]

AN INDEX OF DISEASES, ALPHABETICALLY ARRANGED, WITH THEIR MODERN TREATMENT

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(Continued from page 182, May issue)

CATARRHUS VENTRICULI CHRONICUS (gastritis chronica; chronic catarrh of the stomach; chronic gastritis).—Among human maladies chronic gastritis is, if not the most frequent, at any rate one of the most distressing. An attempt to cure a chronic gastritis exclusively by pharmaceutical agents will in general prove futile, bringing no credit to the attending physician but much discouragement to the patient. The first rule should be thoroughly to investigate into the causal factors of the disease, and, when these are found, radically to combat them.

In primary chronic gastritis, where the organic changes are not too advanced, a strict, scientific treatment will in time most certainly lead to satisfactory results. In secondary gastritis a cure is, *ceteris paribus*, far harder to attain, though temporary relief and improvement are, of course, possible. As the principal causes of most cases of primary chronic gastritis, we observe all kinds of irritation to the organ itself, and, first of all, dietetic excesses, excess in the use of alcohol, tobacco, and all sorts of drugs; last, but not least, insufficient mastication.

Repeated attacks of acute gastritis not taken care of are also liable to terminate in the chronic type.

It is wise, on the first consultation, to ascertain the condition of the patient's teeth; often enough the whole cause may lie in continual irritation from necrotic products and decaying food-remnants transmitted to the stomach, there producing the most suitable soil for every possible kind of micro-organisms. Besides this, teeth in poor condition are more or less unfit for a normal performance of mastication.

People in general eat too much, too hurriedly, season their foods excessively, and drink enough (ice water) to make the gastric juice more or less inert. Ice-water especially has the effect of opening the pyloric passage too soon, thus allowing large quantities of unprepared chyme to enter the intestines prematurely.

Most parents pay more attention to their children's table manners than to a proper selection and ingestion of food. Chronic gastritis would probably be a rare disease if from the beginning children were trained to eat hygienically and given longer time to rest between the table and the play-ground. This would, alas, take an expert teacher considering the fact that the parents themselves—*incredible dictu*—often are just as barbarous in this respect as their offspring.

In regard to selection and regulation of diet it is simply impossible to lay down a standard norm. Individually the digestive ability fluctuates considerably from time to time, and is, besides, so different in various subjects that a positive rule is out of the question.

Idiosyncrasies and subjective peculiarities often puzzle the physician in this respect and necessitate a particular study of almost every single case.

In chronic gastritis of severe type the wisest measure would certainly be to limit the diet to an absolute milk régime—at least, in the beginning. Many a patient will object to this, asserting that milk always distresses and makes him sicker than before. The physician should always thoroughly ascertain this before excluding the absolute milk diet. Most often he will find that such a susceptibility depends simply upon the habit people have of drinking a large amount of milk at once—half a glass and more. Naturally, such an undertaking may for hours discomfort even a healthy stomach in which the supply of rennet is normal. In every case a large and tough curd will form at once, and this coagulum, too big and unyielding to pass the pylorus, will for hours and hours overtax the muscular activity of the stomach, giving rise to overproduction of lactic and other acids before the curd is fully split up and comminuted

enough to enter the intestine. A healthy stomach will soon recover after this increased demand upon its mechanical ability; not so a feeble and catarrhal one, where the distress and subsequent indigestion will continue sometimes for days. If milk is taken in small amounts (spoonfuls), or properly diluted with seltzer, vichy, apollinaris, or simply lime-water, its ingestion will very seldom lead to such unpleasant symptoms. The curd in such a case will precipitate in the form of a light, flocculent mass, accessible to the influence of the gastric ferments, and easily conveyed through the pyloric orifice. This observance is a very simple one, but of enormous importance.

A patient's persistent refusal of a milk-diet should, therefore, not always deter the physician from giving it a thorough trial.

If milk, however, actually should prove detrimental to certain stomachs, we must remember that the market offers several very valuable preparations of pulverized, malted, and evaporated milk which may be tried advantageously. Buttermilk and peptonized milk are also sometimes serviceable and are but seldom followed by any ill symptoms.

When an absolute milk diet (6 to 8 ounces every three hours) has been pursued for a while, an addition of water-crackers, zwieback, or Graham crackers; slightly roasted, stale, and well-baked bread may be tried, and, if well borne, continued. Later on, light milk-soups, soft and thin oatmeal, beefteas, a soft-boiled egg, scraped beef, mashed up with yolk of egg, and a small portion of apple-sauce may be attempted.

It should always be remembered that a catarrhal stomach is very sensitive to cold and warm extremes. The food, whatever it may be, should therefore always be served at the bodily temperature or a trifle above.

Tender meat, freed from fat and always prepared with the best butter (never lard), pigeon, sweet-bread, "salmon-ham" in thin slices, bluefish, whitefish, perch, trout, and bass may be given in small portions.

Forbidden are all kinds of smoked, sour, or salty foods; shell-fish, sausage, cheese, and most of the vegetables, especially cabbage, olives, pickles, celery, radishes, cauliflower, cucumbers, and onions. Soft asparagus tips and well chopped and prepared spinach are allowed at a later stage of improvement. Spices and condiments in general should be altogether excluded. No coffee! Bread and heavy farinaceous food should be given in very small amounts; pies and puddings never! This dietary is to be continued, if necessary, for months.

A very important thing is the regulation

of daily passages. Care must be taken not to use drastics or laxatives apt to increase the stomachal congestion. Mineral and saline waters are properly used: Apenta, Carlsbad, Marienbad, Tarasp, and Rubinat.

Sufficient exercise should be taken when patient is first convalescing: a short, early ride on the bicycle or the horse may prove beneficial. Outdoor sojourning as much as possible, cold sponge-baths (first in the evening, and later on in the morning), best over the whole body, and thorough rubbing-down with rough (salted) towels. In a more advanced stage of improvement regular cold-water treatment (see Catarrhus Intestinalis Chron.). Swedish massage and gentle gymnastics should or may be used.

Before entering into medicinal treatment, the physician should always investigate into the functional faculties of the sick organ by ascertaining its absorptive power, its motor activity and the digestive ability of the gastric juice. Current text-books will give necessary details.

It may be sufficient to state that four main conditions in a catarrhal stomach should serve the physician as guides in the determination of a proper treatment: (1) Disturbances in quality and quantity of the gastric juice; (2) impaired muscular tonus of the organ; (3) increased production of mucus; (4) structural changes in the mucosa. These four conditions may all be present, or one or more of them, and in accordance with the conditions found the physician must institute his therapeutical measures. The sovereign treatment in chronic gastritis, influencing beneficially all four conditions mentioned above, is *lavage* in its different tonus, thus stimulating the motor functions,cretory glands, and increases the muscular tonus, thus stimulating the motor functions. The vasomotor activity is highly benefited by lavage and degenerative processes are arrested. A very important result is the removal of the tough, ropy mucus adherent to the mucosa, which forms such a good soil for micro-organisms.

If an antiseptic lavage is used, the action on the germs will naturally be still more effective. Lavage applied with the needledouche increases in highest degree the beneficial influence on a chronic gastric catarrh. We may just mention that the best temperature of a lavage is about 105° F. In light cases a daily séance for the first few weeks may be considered sufficient; in severer cases, and if the treatment is well borne, it may properly be administered twice a day, always on an empty stomach, before breakfast and before retiring.

The author is of the opinion that too

large quantities in general are used for lavage; it seems rather absurd to expand with volumes of fluid a stomach already tending to dilatation. If gastropotosis is present, lavage of course should be made with smallest possible amounts of water.

It is wise, especially where fermentative processes exist, to add antizymotic agents to the lavage-fluid. In this connection we highly recommend—after thorough cleansing with common salt solution or a 5-per-cent. solution of sodium bicarbonate—putting on the finishing touch with a 3-per-cent. solution of boric acid, adding a little thymol or sodium salicylate. Peppermint also serves the purpose. Nitrate of silver is also valuable applied to the stomachal mucous membrane after previous cleansing by common lavage.

(285) Argent. Nitr. 0.25 (4 grn.)
Aq. Dest. 360. (12 oz.)

Dr. ad vitr. nigr.

For injection into the stomach after ordinary lavage.

This solution may be left some few minutes in contact with the mucosa and then withdrawn.

Of electro-therapeutical measures the author warmly recommends the use of *sinusoidal currents*, either directly applied to the inside of the stomach or percutaneously. The result produced by them surpasses both faradic and galvanic electrization, and includes at once, it seems, the full benefit of both those currents, without causing any unpleasant symptoms to the patient.

After a few applications to the catarrhal stomach, we will find not only the muscular apparatus regain its tonus and physiological functions, but also the digestive apparatus, and its products will increase in strength and value. Even structural changes, atrophic and degenerative conditions, are quickly improved by this most powerful therapeutic agent.

In direct gastro-sinusoidal electrization a properly formed electrode, placed inside a stomach-tube, should carefully be introduced into the stomach; the other flat-sponge electrode over either the *regio epigastrica* or the spine, opposite the stomach. In percutaneous application two flat-sponge electrodes are used, one over the spine opposite the stomach, and the other resting on the epigastric region.

If the object is to improve muscular tonus or digestive products, restore structural changes, or stimulate the sympathetic branches, currents of lower velocity should be used.

To relieve hyperesthetic conditions (be the symptoms regular pains, soreness or

"fulness") of the nerves or sympathetic nerve-centers, the currents of highest velocity are best suited. Paresthetic symptoms are also quickly relieved by high currents.

The sinusoidal current in all its powerful action never causes the patients any suffering; it is entirely harmless, and the patient used to the unpleasant effects of strong faradic currents will highly appreciate the agreeable experience of seeing most sudden improvements and conspicuous results without bearing the usual sufferings or discomforts.

Among the pharmaceutical agents that are of real value in chronic gastric catarrh, pure hydrochloric acid stands first. The use of this preparation is especially indicated where examination of the gastric juice has revealed a lack of or absence of hydrochloric acid; also where structural changes in the glands or degenerative processes keep the normal supply of hydrochloric acid at a low ebb. In fermentation and superabundance of the inorganic acids, administration of hydrochloric acid is also of great advantage. It should be given in doses from 20 to 30 drops, well diluted with water or in mucilaginous vehicle, after meals and occasionally when digestive disturbances occur between meals. It is wise to use a glass tube to spare the teeth from corrosion. The very purest diluted acid should always be used for internal administration.

(286) *Acidi Muriatici Puriss. Dil.* 30. (1 oz.)

Dr. ad vas. epistom. vitreo.

Twenty to thirty drops fifteen minutes after meals.

If the investigation has revealed a lack of pepsin (a rare occurrence), the administration of HCl is also indicated, and is absolutely necessary, as this agent is to convert the pepsinogen into pepsin.

In prescribing digestive ferments the physician should always prefer the powdered preparations, and be particular about their coming from reliable and scientifically educated chemists and drug manufacturers.

There are some ferments derived from plants highly recommended for chronic indigestion. We have failed to find those claims verified in practice. They may have a certain beneficial action in acute stages of nervous or catarrhal conditions; in chronic disturbances, however, they seem to be without any value worthy of recognition.

Another group of remedies recommended in chronic gastritis are the bitter tonics, which in certain conditions have an indisputable therapeutic value. Their physiologic action is yet somewhat uncertain; they seem to increase, however, the secretory processes and raise the muscular tonus.

The most prominent type of these bitters is strychnine and preparations of *nux vomica*. There we find an action not only on the vasomotor centers, but also a stimulating influence on the peristalsis. Bitter tonics intended to benefit the digestion should always be given half an hour before meals.

(287) *Infus. Gentianæ*
Comp. 360. (12 oz.)
Tr. Nuc. Vom. 8. (2 drams)
Tablespoonful before meals.

(288) *Aq. Amygd. Amaræ Conc.*
Tr. Nuc. Vom., aa. 15. (½ oz.)
Ten to fifteen drops before meals.

(289) *Extr. Nuc. Vom.* 0.15 (2½ grn.)
Rad. Rhei Pulv. 2. (30 grn.)
Pulv. Aromat. 3. (45 grn.)
Div. in pil. No. xxx. Consperge Cinnam.
Two pills before meals.

(290) *Bism. Subnitr.*,
Magnes. Carbon.,
Sacch. Alb., aa. 0.4 (6 grn.)
Pulv. Nuc. Vom. 0.06 (1 grn.)
Morph. Muriat. 0.004 (1/15 grn.)
Dr. tal. dos. No. xv.
One powder before meals.

(291) *Cort. Condurango.* 30. (1 oz.)
Macera per horas XII
cum Aquæ, q. s. ut
fiat decoctum. 300. (10 oz.)
Deinde adde Syrupi
Cinnam. 20. (5 drams)
Tablespoonful before meals.

(292) *Tr. Quassia.* 30. (1 oz.)
Fifteen drops before meals.

(293) *Folior. Trifol. Fibrini*,
Fol. Menth. Pip.,
Rhizom. Zingib.,
Rad. Valerianæ, aa. 30. (1 oz.)
Dr. ad scatulam.

Tablespoonful in tumblerful of warm water, as tea.

(294) *Tr. Calami.* 30. (1 oz.)
Fifteen drops on a piece of sugar before meals.

(295) *Tr. Columbæ*,
Tr. Cinchon. Comp., aa. 15. (½ oz.)
Teaspoonful before meals.

If pains accompany the gastric catarrh:

(296) *Aq. Laurocerasi.* 10. (2½ dr.)
Tr. Belladonnæ... Gtts. x (10 drops)
Ten drops three or four times a day.

(297) *Dionin.* 0.18 (3 grn.)
Extr. Cannab. Ind. 0.12 (2 grn.)
Extr. Gentianæ, q. s. ut
fiat pil. No. XII.
One pill three times a day.

(298) *Aq. Amygd. Amaræ*
Conc. 15. (½ oz.)
Morph. Hydrochlor.,
Cocaine Hydrochlor.,
..... aa. 0.15 (2½ grn.)
Fifteen drops three times a day.

(299) *Orexine Tann.* 4. (60 grn.)
Div. in caps. No. xv.

Or,
Orexoids (aa, 0.25 or 4 grn.) No. xv.
One three times a day, before meals.

(TO BE CONTINUED)

A REVIEW OF THE PROGRESS OF THERAPEUTICS FOR THE LAST TWELVE MONTHS¹

By Reynold Webb Wilcox, M.D., LL.D., New York

Professor of Medicine and Therapeutics at the New York Post-Graduate Medical School and Hospital;
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NOTE.—We present this address practically in full, omitting only the portions which have no practical interest but are rather of a speculative character.

IN commencing the scientific program of the third annual meeting of the American Therapeutic Society, I would offer congratulations upon the remarkable interest in therapeutics which has been awakened, for which the society is in a large measure responsible. The medical journals are devoting increased space to the subject. The year-books are mostly dependent upon therapeutics for their chief interest. The practical papers are those sought for by the societies. The practitioner demands more of the consultant than a diagnosis, "How shall we best cope with disease and help the patient?"—a demand that only the trained therapist can meet. Not only the physician-specialist and the general practitioner are interested in our work, but specialists of every sort look to us for aid. On the other hand, the fact that distinguished specialists, at our invitation, honor us by their presence and papers, indicates not only the interdependence of the differential parts of the body medical, but that complete knowledge can result only from their integration. Measures of which we know the general principles are returned to us by those working within closely-defined boundaries with their special applications determined and codified. Physician-specialist and surgeon-specialist, general practitioner and limited specialist meet on the highest plane of the healing art, that before which all the rest of medical science is elementary and preliminary—how to cure sick people. While some will tell us what of greatest moment, in their opinion, has been recorded in their especial fields, we are quite sure that they will learn from pure therapeutics many measures which will find application with or without modification in special work. Nothing which pertains to man is foreign to our interest, but that which devotes itself to removing mankind from sickness to health is worthy of our best brains, most painstaking industry and conscientious efforts. If you will glance over the program you will be sure that the most captious critic would be silenced. We intend to have outspoken, honest and intelligent therapeutics,

with all cranks, faddists and mediocrity eliminated. The laboratory and the hospital will give their conclusions, the library and the clinic will add their share, and all for the benefit of suffering humanity.

The following report is based upon the literature of the past year as it has been reviewed, and most of the methods and remedies have been verified by me. I have purposely abstained from mentioning some subjects which will be presented by other speakers, notably Röntgen-therapy and the use of organic extracts.

Suprarenal extract, either as adrenalin or epinephrin, has excited considerable discussion as to its chemical constitution. Abel concludes as follows:

(1) The blood-pressure-raising constituent of the suprarenal gland may be isolated by the method described by him in the form of a basic, minutely crystalline, though unstable compound, which agrees in some of its properties with the substance that he has called epinephrin, while it fails to exhibit certain other equally fundamental and characteristic properties of this substance. (2) Mineral acids, however, easily convert this substance into one which is physiologically active and which also gives all the characteristic reactions of the epinephrin, $C_{10}H_{11}NO_3$, contained in his former series of compounds. Highly soluble and apparently stable salts of therapeutic and chemical importance are therefore easily made. (3) Analyses of the substances described will soon be given to show what changes, if any, in elementary composition take place under the influence of the acids used in the conversion; also how these new compounds of epinephrin will agree in composition with those of his former series; also, how far the substance isolated by the zinc process agrees in composition with the similar and probably identical compound contained in the material analyzed by Aldrich and Takamine. So far as its astringent and hemostatic properties go, there is practically a consensus of opinion. The list of conditions in which it is useful continues to be enlarged and it is a real addition to our armamentarium. Adrenalin hydrochloride should generally be employed in strength of 1:1000 (1:500 for eye-work, Bulson). As an anesthetic more time is required than for cocaine (ten to fifteen minutes). As a hemostatic, it seems to be safer and more lasting than the latter. Cautions as to the use of suprarenal extract were mentioned last year. Suprarenal extract given internally for hay-fever is in increasing vogue.

Diphtheria antitoxin has now established a secure position notwithstanding the un-

¹Address delivered before the American Therapeutic Society, New York, on May 13, 1902. *Medical News*.

fortunate tetanus epidemics which have probably been due to carelessness in the preparation or putting up of the serum. If politics in and out of local boards of health could be eliminated, doubtless this objection would be removed.

There is but little encouragement for the use of *antitetanic serum*, perhaps because the statistics reported are too few. Lamker has collected fifty-two cases of intracerebral injections, with thirty-three deaths—63 per cent.—in a majority of which both intravenous and subcutaneous injections were also made. If these statistics be compared with those without intracerebral injections, we are not favorably impressed with the new method.

Calmette's antivenomous serum has been successfully used in a few instances.

Antistreptococcic serum has made some, not marked, progress towards acceptance. It is certainly not a routine remedy, but should be reserved for desperate cases.

Antipneumococcic serum is still *sub judice*, so far as known the results being in no instance comparable to those obtained by massive doses of creosote as an organic salt, as shown by the reports of Weber, Thomson, and Wilcox.

Inoculation against enteric fever has been practised with a fair degree of success and the matter, in spite of Melville's unfavorable reports, is well worthy further investigation. Wright has studied the blood-changes after antityphoid inoculation. He found when vigorous reaction occurred that the bactericidal power of the blood decreased and the susceptibility to typhoid fever increased for from two to three weeks, but that afterward these conditions were reversed. He found that there is a definite limit beyond which the bactericidal power of the blood cannot be increased by inoculation with sterilized cultures of typhoid bacilli.

Anti plague serum, either that of Yersin, Roux or Lustig and Galeotti seems to influence favorably the disease without danger to the patient.

Coley is still working upon the *mixed toxins of erysipelas and bacillus prodigiosus* in inoperable malignant growths, chiefly sarcomata.

As to the *spinal use of cocaine*, Reclus noting the six, possibly eight, deaths due to this method, contends that it gives a less degree of security than do our ordinary anesthetics, so that until further proof is furnished, ether, chloroform, and the local use of cocaine cannot without injustice and danger be dethroned even partially from their present eminence. Guinard quotes

Ravoul and Aubourg to show that an injection into arachnoid space gives rise to a defensive movement in the vessels (no doubt by vaso-dilatation), which is accompanied by a leucocytic infiltration into the spinal liquid and by hypertension. The more intense this defensive process is—and this depends on individual susceptibility—the greater the headache, rise of temperature, etc. The author's method consists in withdrawing a sufficient quantity of the spinal liquid itself for use as a vehicle in which to dissolve the cocaine used for injection. This seems to be a near approach to the ideal, for by this method but few foreign elements are introduced. Quinine, according to Jaboulay, is superior to cocaine, when injected into the subarachnoid space, in causing analgesia which, although less in extent, lasts two weeks. Its use is suggested for cystitis, local cancer, sciatica and other neuralgias and neurites situated in the lower extremities. Albarran and Cathelin have treated urinary incontinence by intraspinal injections of serum or of cocaine. Success resulted in thirteen of fifteen patients treated. Generally two or three injections at the interval of a day, and later on oftener, may be required. Mariotti suggests the intra-arachnoid injections of carbolic acid, corrosive sublimate or iodine in dose sufficient to destroy micro-organisms without producing toxic effects—about the usual hypodermatic dose—for cerebrospinal infections. In dogs no unfavorable symptoms were observed even when the injections were repeated. From careful experiments he proved that the injections might extend even as high as the fourth cervical vertebra; others have claimed that they reached the brain.

White has proposed the *injection beneath the cerebral cortex* of half a dram of benzylvinylidiacetonalkamin [Eucaïne], in a sterile 2-per-cent. solution with a view to producing a local sedative effect. This might, according to Jelliffe, have a possible antidotal effect upon a theoretical toxin, antagonize the action of an autogenous poison or of an invading microbe, or it might act by improving nutrition in some unknown way. Time alone will determine the value of this procedure.

On *general anesthesia* a very large number of papers has appeared. The burden of most of them is better education and larger experience for the anesthetist and pleas for the recognition of anesthetization as a specialty. With this the reviewer, remembering a score of years of hospital service, is most heartily in accord. Becker has carried on about 500 narcoses with ether to

which $\frac{1}{2}$ -of-1-per-cent. oil of pine (*oleum pini pumilionis*) has been added. With this plan ether may be employed in bronchitis, pulmonary tuberculosis, empyema, and the emphysema of old people. No aggravation of the disease has been noticed. The ether is not rendered unfit for inhalation, but rather improved, because these ethereal oils greedily take up oxygen and have ozonizing properties.

Cumston has reported on *calcium hydrosulphide*, as a paste, used as a depilatory which does not irritate, cause pain nor leave any after-effects.

Carbolic acid has received much attention, both as an internal and as a local remedy. In cases of poisoning by it, and they are by no means infrequent, various antidotes are recommended, but 95-per-cent. alcohol remains the most effective.

Gautier repeats his encomiums on *cacodylic acid* (dimethyl arsenic) as a sodium salt, and much has appeared during the past year. In addition to the ordinary uses of arsenic, over which it apparently possesses the advantage of larger doses and, if given hypodermically, fewer instances of untoward effects, tuberculosis, sarcomatosis and carcinomatosis have been benefitted. Murell's report on sodium cacodylate should make us quite as cautious as we are with other forms of arsenic. On the whole, its use has been gradually increasing and, if the usual precautions are observed, it should be satisfactory. Since all new remedies must pass through the period of criticism, we are of the opinion that this has now gotten upon an established base.

Gelatin is strongly recommended in hemoptysis by Castaing and in hematuria by Schwabe. It is contra-indicated in acute nephritis only. In hemophilia, purpura and in the hemorrhagic forms of acute nephritis, it is probably the best remedy. Subcutaneously about 10 oz. of a 1-per-cent. solution are required. Zibell, after noting the various uses of gelatin as a hemostatic, has reached the conclusion that it is the contained lime which causes this phenomenon. In this way he harmonizes the observations upon this substance with those upon such lime salts as calcium chloride. Calcium chloride by increasing the coagulability of the blood has been the subject of but few reports and those are satisfactory. Menorrhagia is the latest addition to the list of indications.

Iodized sesame oil [Iodipin] (10- or 25-per-cent. combination), up to 6 drams by injection into the muscles of the back, seems to be useful in tertiary syphilis and by the mouth in bronchitis, pleurisy and

various glandular inflammations. As a method of giving intensive doses in syphilis it is to be recommended.

Resorcin has apparently found new uses: (1) as a spray, one-third of 1 per cent. with an acidulated solution of quinine, in whooping cough; (2) as a preservative of solutions of suprarenal extract; (3) as a 30-per-cent. ointment in lupus vulgaris, and (4) as a dusting powder in rodent ulcer.

Atropine for desperate cases of intestinal obstruction has been the subject of much controversy. The general verdict seems to be against its usefulness and with Geberle we are inclined to agree that it is only in the paralytic or spastic form that internal treatment is of use, and even here morphine is preferable. If it has a place it is only in distinctly inoperable cases. [On this point we are constrained to disagree with the distinguished author. The number of favorable reports is much in excess of those of unfavorable character.—Ed. M. A.]

Yohimbin, in doses of $\frac{1}{12}$ grn. increased gradually to $\frac{1}{6}$ grn., has marked aphrodisiac properties. However, Kravkoff reports that even the minimal dose excites salivation, nausea and even syncope. [The latest report by A. Hess, in the *Therapie der Gegenwart* for June is also unfavorable.—Ed. M. A.]

The use of *formaldehyde* by inhalation seems to be increasing and yields good results. Muther claims to have cured seven of fifteen patients. In this he is seconded by Bierwald. Formaldehyde in glycerin (1 to 4 per cent.) does not cause so much irritation and pain when applied to a mucous surface. In ozena, follicular tonsillitis, diphtheria, the angina of scarlet fever, parasitic stomatitis, and tuberculous ulcers, the results have been such as to warrant further use.

Hexamethylene-tetramine [Urotropin or Formin] as a urinary antiseptic still is much in vogue. It appears to be superior to salol, ammonium benzoate, boric acid, guaiacol, naphthalin and resorcin. In enteric fever the cystitis is cured and the urine freed from the bacillus of Eberth. It has established its place as the most certain and useful urinary antiseptic and has come to stay.

Saint-Philippe finds *arsenic iodide*, 5 drops after each meal of a 1-per-cent. solution, increased to 15 or 20 drops, of great value in the bronchitis of strumous children.

Difluor-diphenyl in an ointment of 5 per cent. strength (10 parts of vaselin and 85 of lanolin) thoroughly rubbed into the back, chest and abdomen of children, seems to diminish the number and severity of the paroxysms of whooping-cough.

Sodium cinnamate has received much attention. While some claim good results, testimony is decidedly discordant. As a remedy for pulmonary tuberculosis given intravenously, some report marked success. It has no preventive action on animals infected with virulent bacilli.

Solt makes a sound plea for the routine use of *ergotin* as a prophylactic and even as a specific against puerperal fever. The dose employed is from $1\frac{1}{2}$ to 3 grn.

The depressing effects of *methylene blue* when administered to patients suffering from nephritis has led to its trial in various forms of mania and parietic dementia by Hughes and Lovelace, who gave it in twenty-two cases. These were nearly all cases of wild excitement when the drug was used, and in all but six it produced a calmative effect which did not resemble the action of hypnotic drugs, but seemed rather a natural quietude; the patients were relieved of excitation, but without dulness. The effect was observed three or four hours after a dose had been given and lasted from fifteen to twenty-four hours. Generally 1 grn. was given, twice daily or oftener, hypodermatically; in the remainder 2 grn. were given in capsule. In only one instance did depression result. Each patient slept well at night, but not during the day. The only unpleasant symptoms which could be ascribed to the drug was the vertigo noted in one patient. Administration by mouth was marked by total absence of all gastrointestinal derangements. It is possible that a valuable remedy has been discovered for quieting many patients suffering from incurable mental disease in which excitement is a prominent symptom.

Romero paints his patients suffering from *smallpox* thrice daily with a 1-per-cent. solution of picric acid and $7\frac{1}{2}$ -per-cent. alcohol in water. Generally pustules do not form, but if they suppurate he employs an ointment of $2\frac{1}{2}$ per cent. of picric acid and 2 per cent. of alcohol in hydrous wool-fat four times daily. Picric acid is believed to inhibit the growth of the micro-organisms and thus prevent suppuration.

As an *antidote to the cyanides* Martin and O'Brien, from an extensive experience, recommend an ounce of a 3-per-cent. solution of ferrous sulphate, the same quantity of a 5-per-cent. solution of caustic potash, 30 grn. of powdered magnesium oxide, a metal receptacle of 1 pint capacity, and a stomach tube. The two solutions are kept in air-tight tubes which can be broken into the receptacle, the powdered magnesia and half pint of water added, shaken up and administered.

Dupuy has been experimenting with a mixture consisting of from 5 to 20 parts of cocaine, 50 parts of aniline oil, and 50 parts of alcohol to produce *anesthesia of the tympanic membrane*. Tympanotomy and ossiculectomy have been performed painlessly under its influence. Twenty minutes are required for anesthesia. In one instance drowsiness, cyanosis, cold and clammy perspiration, subnormal temperature, rapid pulse and respiration followed its use for persistent earache, which was completely relieved. Since aniline has been shown to be extremely toxic, this combination should not be used except for operative purposes, and then as soon as possible after the operation the external auditory canal should be irrigated.

Fliess' views, as to the so-called *genital areas in the nose* have been confirmed by Schiff. Cocaine applied to the inferior turbinated process relieves hypogastric pain; when applied to the tuberculum septi, lumbar pain ceases. Dysmenorrhea, either nervous or due to disease of the sexual organs, is relived by applications of the galvanocautery. Mechanical dysmenorrhea (stenosis, anteflexion) is not benefited. A few drops of a 20-per-cent. solution was employed and the results were satisfactory, the possibility of suggestion being removed. The opinion is offered for discussion that this method of applying cocaine may be found to be far preferable to its intraspinal use in lying-in hospitals.

Zomotherapy, the feeding of tuberculous patients with large quantities of raw meat and expressed meat-juice, although highly praised by Richet and Héricourt a few years ago, is believed by Frankel and Soternheim to be overrated. My own experience, based on observations of patients who had been so treated, leads us to condemn unqualifiedly the practice.

Sodium and potassium tellurate in $\frac{1}{3}$ - to $\frac{3}{4}$ -grain doses appears to be effective in the *night-sweats* of pulmonary tuberculosis. Its garlic-like odor is objectionable. It will be remembered that to this, as an impurity, is due the peculiar odor after the ingestion of various bismuth compounds.

Bulkley finds that a 2- or 3-per-cent. aqueous solution of potassium permanganate painted on and allowed to dry relieves the *itching* of eczema.

Phototherapy, to which allusion was made last year, is regarded by Teredde as the best method of treatment for grave forms of lupus erythematosus. Various experiments have been carried out with lights of different compositions. Quite likely something of definite therapeutic val-

ue will be formulated within the next few years.

Pilocarpine often causes the vertigo to disappear and improves the hearing in *Menière's disease*, according to recent observations.

Guaiacol in hydrous wool-fat (1 to 2) is of considerable value as an ointment in epidermitis. The cacodylate by injection, according to Barbour, gives lasting and rapid benefit in tuberculosis.

A *terpinol* from the *Melaleuca viridiflora*, $\frac{1}{2}$ to 2 drams by injection of a 70-per-cent. solution, has given excellent results in whooping-cough. In tuberculosis the same amount by mouth comes quite near to creosote in value.

Erythrol tetranitrate is apparently increasing in favor; aside from the ordinary conditions favorable for its use, Mattiolo recommends it in lead-poisoning with high arterial tension.

Aaron recommends dram doses of the fluid extract of *Epigea repens* (trailing arbutus or mayflower) for post-prandial gaseous eructations; no explanation of its action has been offered.

Copper as the *acetophosphate*, in $\frac{1}{6}$ - to $\frac{1}{3}$ -grn. doses, is an old remedy, recently revived, for the treatment of *anemia* and *chlorosis*. Gindicendra reports both an increase in hemoglobin and in red corpuscles.

Of *hydrotherapy* but little of real advance has been recorded during the past year. One of its devotees has reached the conclusion that "cold water is about the poorest antipyretic"—a fact which has been familiar to therapeutists for some years.

Barnes produced *two new synthetics* which embody material advancements in the treatment of disease. The first of these is an intestinal antiseptic and astringent (hexamethylenetetramine-tannin-protein) which passes through the stomach chemically unaffected and, as proven by both experimental and clinical studies, exerts strong antiseptic and astringent action upon the entire intestinal canal from the duodenum to the rectum. The second of his synthetics is an odorless, non-irritating, non-toxic compound (monoiodo-dibismuth-methylene-dicresotinate) which has proven of exceptional value as a dusting powder for surgical use. The feature of this product is that, when brought in contact with wound secretions, it is gradually split up into its components—formaldehyde, iodine, bismuth and cresotinic acid.

In consonance with what was presented on this subject in last year's address, Cushny has reached the following conclusions in regard to the *pharmacologic assay*: It

is a useful substitute for the chemical assay in the case of many remedies in which the latter is not applicable, and it permits the formation of a standard for these preparations which is sufficiently constant and sufficiently exact for therapeutic purposes. It is desirable that such an assay should be made in preparations which fail to effect the desired therapeutic result unless given in quantities which act on important organs, and which are liable to give rise to poisoning if unusually powerful preparations are unknowingly dispensed. This will also be recognized as likely to be of assistance in the line of therapeutic accuracy.

The flood of *new synthetics* is very sensibly abating, probably because professional credulity has been so overtaxed in the past. Should the report of our Committee on the Bureau of *Materia Medica* be accepted and the plan put in operation, for the first time in the history of medicine will there be an impartial and at the same time an impersonal report possible and the future of valuable additions to our resources assured. No one who has given this matter thoughtful consideration can fail to be impressed with the urgent necessity for scientific approval or disapproval of substances offered for our use. The plan presented seems to be the only one by which an authoritative verdict can be secured.

The Committee on the Revision of the United States Pharmacopœia has sustained a great loss in the death of the Chairman, Dr. Charles Rice. His accurate and broad technical knowledge, his patient industry and tactful dealing with his colleagues, made the Pharmacopœia of 1890 far superior to that of any other country. Fortunately, one who has been intimately associated with him has been chosen his successor and the work is progressing in a thoroughly satisfactory manner under Professor Remington, who brings to it wide knowledge and untiring energy. When the labors of the committee are completed the result will be entirely satisfactory to both physician and pharmacist.

THE RELATION OF MEDICAL SCIENCE TO COMMERCE¹

By Frank Billings, M.S., M. D., Chicago

I HAVE been informed that there is no rule of the Association which fixes the subject of this address. I hope I may be pardoned when I depart from the custom which my predecessors have usually followed

¹ Address in Medicine, delivered at the Fifty-third Annual Meeting of the American Medical Association, held at Saratoga Springs, N. Y., June 10, 11, 12 and 13, 1902.

when they confined the subject of the address to the progress of medicine during the year just past.

We live in a period of the greatest activity of the history of the world. Modern inventions annihilate time and distance. Electricity and steam approximate the most distant parts of the civilized globe. Vast amounts of capital are invested in electrical, steam, and other related interests. Large commercial enterprises are carried on or launched into new fields, which require money, the employment of the brightest intellects, and skilled and common labor.

Competition is great in all the affairs of men. The struggle for supremacy between nations and between men was never so fiercely contended as now. The world is richer than ever before. Great individual fortunes, the result of the efforts of the few years of a single span of life, are seen everywhere. The wage of the laborer in our country is larger than ever before, and he may command the necessities as well as many of the comforts of life.

This modern restless activity, with its nerve-racking, the evil results of a luxurious life, the moral obliquity which it may breed, as well as many other conditions which affect the health of individuals, while of interest to medicine, do not concern us in the consideration of the broader subject of this paper.

THE BROADER APPLICATION OF MEDICAL SCIENCE

Medical science is more interested in and is of greater importance to the world than ever before, in protecting individuals, states, and nations from infectious diseases, which are rendered more dangerous than formerly because of a denser population, increased facilities of communication between the peoples of the earth, by travel, and by national and international interchange of food and other commercial products.

Medical science, too, is closely identified with the vast moneyed interests of the merchant marine and of national and international commerce. Quarantine against the spread of infectious disease is applied wisely or foolishly in direct ratio to our knowledge or ignorance of the cause, the means of transmission, and the evolution of disease. So, too, medicine has to do with the knowledge which will enable man to escape from and finally remove the conditions which cause infection and which render a country uninhabitable to civilized man.

Medical science must safeguard man against infection and intoxication from parasitic diseases of animals used for food

and from contaminated and adulterated food and drink. Not only from a humanitarian standpoint is medical science related to commercial pursuits, but the sciences related to medicine have done much to preserve animals used for food and to protect agricultural interests of many kinds from disease and destruction.

One may say, I think, that in no other pursuit which engages the serious attention of men are there so many earnest, unselfish, and philanthropic workers as there are to-day in the broad field of medicine. In the various departments of science related to medicine one finds educated, skilled, energetic, earnest workers after truth, willing to sacrifice home, friends, health, and life for the advancement of the science which has for its primary object the conservation and prolongation of human life. Pecuniary reward for them is never large and never commensurate with the character of the work.

Furthermore, great and astounding as are the modern commercial inventions, the progress made in medical science during the last twenty years is equally great.

Is modern medicine prepared to meet the demands of modern progress concerning the questions which interest humanity and commerce? Let us answer the question by a brief retrospect of the progress of medicine and by a statement of the present status of medical science.

FIRST APPLICATION OF PHYSICAL SCIENCES TO MEDICINE

From the latter part of the eighteenth to the beginning of the last quarter of the nineteenth century the science of medicine developed steadily upon a rational physical basis. Jenner's discovery of the protection of the human race against variola by vaccination with cow-pox illuminates with noon-day splendor an era otherwise gloomy with its hypotheses, theories, and superstitions concerning disease. This single brilliant achievement of the end of the eighteenth century was the beginning of the evolution in medical science which made the nineteenth century notable. The application early in the nineteenth century of physics, of physiology, of pathological anatomy, and of chemistry to the study of disease developed a more exact knowledge than before existed. To Avenbrugger that early period owes much through the discovery of methods of physical examination which were slowly developed and perfected by Corvisart, Laennec, Piorry, Skoda, Wintrich, Traube, Louis, Cheyne, Stokes, Graves, Corrigan, Flint, Scudamore, and others.

Pathological anatomy made wonderful strides under the labors of Virchow, Rokitsky, Arnold, Stilling, and their students. Physiology was developed by the labors of Johannes Müller, Brücke, Helmholtz, Trousseau, Vierordt, Foster, Carpenter, Magendie, and their disciples; and the fuller knowledge embraced in physiological chemistry was added to the rapidly broadening field of medicine by Hoppe-Seyler, Schwann, Stricker, Prout, Liebig, and others.

BACTERIOLOGY

The development of the microscope during the second and third quarters of the past century added a mighty weapon to the armamentarium of the physicist. The microscope was an aid to the investigators of pathological anatomy, of physiology, of chemical physiology, and of other subjects, and it was the one necessary means by which the teeming world of bacteria was made visible. This discovery and the knowledge which have come from a study of these infinite and yet often mighty beings has revolutionized medicine.

It was Pasteur's brilliant studies of the infective microbes of air which led to the discovery of the source of contamination of wounds and which made it possible for Lister to evolve a method of protection of wounds from air infection. The aseptic surgery of to-day is but the evolution of Listerism, which had its basis of existence in the discoveries of Pasteur. With the microscope Pasteur rid the world of the superstition of spontaneous generation. He proved the infectiousness of dust-borne air through the microbes it carried. He blazed the way for others in the study of bacteria as agents of putrefaction, of fermentation, and of pathological infection in animals.

Bacteriology became an exact science with the discovery by Robert Koch of cultural methods which made differentiation of bacteria possible. The causative relation of bacteria to all infective processes was practically proved by the laws promulgated by Koch. In twenty years the bacterial cause of tuberculosis, typhoid fever, cholera, diphtheria, pneumonia, pyogenic processes, erysipelas, gonorrhea, epidemic meningitis, epidemic dysentery, the plague, charbon, glanders, tetanus, influenza, and lepra has been proved.

PARASITES

The discovery of the hematozoön of malaria by Laveran; the recognition of the amœba of dysentery by Loesch; of the ray fungi and especially the actinomyces as infective agents in the lower animals and in

man, and the more exact knowledge of other animal parasites infecting man and animals, which the microscope has made clear, have been as epoch-making in parasitology as the discoveries of Pasteur and Koch in bacteriology.

The recognition of the relation of bacteria, protozoa, and animal parasites to infective disease has been the means of a more exact knowledge of the clinical phenomena of disease, of morbid anatomy, of physiology, and of physiological chemistry than would have been possible without it.

TRANSMISSION OF INFECTION

The knowledge of the cause has led to a study of the life-history of infective organisms outside of as well as in the animal body. The mode of propagation, the means of transmission of infective micro-organisms, by fomites and other agents, has become known. The rôle which insects that infest animals play as definitive or intermediate hosts has been studied and proved. The discovery of Manson of the transmission of *Filaria sanguinis hominis* by the mosquito was of vast importance as a suggestion of the mosquito as a definitive host in malaria. The investigations of Manson, Ross, Celli, Grassi, Dionise, Marchiafava, Bignami, Koch, and others have made our knowledge of malaria exact. With the microscope we may now not only recognize malaria and differentiate it from the other infective fevers, but we may also at the same time recognize by an examination of the blood the type of malarial infection and foretell its course. Not only may we recognize the disease definitely and apply the drug treatment more rationally, but the knowledge of the means of its transmission from man to man enables us to apply preventive measures which, as we shall see later, are of the greatest importance from a commercial as well as from a humanitarian point of view. The recognition of the rôle of the mosquito in malaria has been, furthermore, a stimulus to the study of the same insect in relation to many other infections.

The brilliant research work of our own Reed and Carroll in 1900 in Cuba, by which they proved that the mosquito of the genus *Stegomyia* was the sole means of the transmission of yellow fever from man to man, is of great importance as a scientific fact. The influence of this discovery upon mankind as a prophylactic against a disease which has killed multitudes and also from a monetary point of view, in reference to commercial pursuits, is not appreciated at this time as it should be.

Hardly less important is the fact that the *Bacillus pestis* may infect fleas and these in turn infect rats, mice, and man. It is important, too, to know that pests like the house fly may be carriers of infective bacteria from refuse filth to our kitchens and tables and contaminate food, and thus infect us with typhoid fever, cholera, and perhaps many other diseases which are propagated by filth.

The study of bacteria in the laboratory and in the blood tissues of infected animals has led to the discovery of the means by which bacteria disturb the animal economy and produce phenomena expressive of disease. The fact that the blood and tissues of infected animals contained a toxin which could also be isolated from pure bacterial cultures in the laboratory, and that this toxin, when introduced into an animal, was capable of exciting the same phenomena of disease as the bacteria themselves, was positive proof that bacteria excited disease phenomena by means of a toxin which they formed. The elaboration of antitoxins in the body of the infected animal was also promptly recognized and not only served to explain the self-limitation of many of the infective diseases, but also helped us to understand the immunity which one attack of some of the bacterial diseases affords.

PROTECTIVE INOCULATION

Long before bacterial toxins were recognized as the cause of disease phenomena, Pasteur established the principle of protective inoculation with bacteria of lessened virulence, which was brought about by attenuation of the bacteria by a modification of cultural methods and also by serial inoculation of certain lower animals. This he successfully applied to charbon in sheep and cattle and to chicken cholera. In both of these diseases the bacteria were known and the problems of attenuation could be carried on in the laboratory by direct study of the bacteria before inoculation, and afterward when they were recovered from the bodies of the animals experimented on.

His final life's work was no less important, in firmly fixing the immunizing influence of attenuated bacterial inoculation in rabies. Here the discovery of the infecting bacterium escaped every known means of recognition by examination of the tissues and blood of the infected animals microscopically and culturally. Apparently there are pathogenic bacteria which we do not know because we have not yet recognized the proper culture material for the successful artificial cultivation of them, nor have we discovered the tinctorial reaction which

they may possess, and, finally, it is not improbable that they may be infinitely smaller than other bacteria and, therefore, more difficult to recognize.

Pasteur recognized the fact that in hydrophobia the brain and other nervous tissue of an infected animal are capable, when inoculated into another animal's brain, of producing the disease. That the infected brain, used for inoculating animals, contained the bacteria which caused the disease was proved by the fact that a stage of incubation occurred in the inoculated animal and that a series of animals were successfully inoculated consecutively from the first. Pasteur then successfully attenuated the unknown bacterium of hydrophobia present in the nervous tissues of an inoculated animal by desiccation of the nervous tissue in a sterile apparatus by methods too well known to repeat. Nor is it necessary to occupy time in repeating the well-known methods pursued by Pasteur and his pupils in the use of the graduated doses of attenuated bacteria contained in the nerve tissues in the prophylactic treatment of rabies. To Pasteur, therefore, do we owe the scientific recognition of the principle of protective inoculation.

It is now a well-known fact, however, that inoculation against disease was practised by the Chinese 1,000 years ago. They inoculated the healthy with smallpox as a protection against the disease. Variolization was also practised in Europe in the seventeenth and eighteenth centuries. We read that in 1718 Lady Mary Montagu caused a son to be inoculated with variola in Italy and that two years later her daughter was inoculated in England. The practice was followed in Ireland long after the successful establishment of vaccine as a protection against variola. Inoculation against syphilis, or syphilization, was also practised in Europe during the nineteenth century.

To Jenner, however, do we owe the first example of the protective inoculation by means of an attenuated virus. This attenuation we now know was established by the accidental inoculation of milch cows with small-pox, producing a modified disease, vaccinia. That vaccinia produced in man by inoculation direct from the cow, would protect against smallpox was proved when in 1798 Jenner successfully vaccinated, direct from the cow, the five-year-old lad William Summers. The thousands of successful vaccinations which have since been performed and the thousands of lives which have been saved by vaccination are proof of its validity and utility. The immunity established by protective inoculation

is apparently the same as that induced by an unmodified attack of variola.

SERUM THERAPY

When chemistry had revealed the nature of bacterial poisons and experiments established their relation to the phenomena of disease, it was proved that substances were formed in artificial culture media and in the blood and tissues of infected animals which had the power to neutralize the effect of the bacterial poison in other animals infected with the same organism. Further investigation showed that an animal inoculated with the laboratory preparation of antitoxin was protected against the disease.

Furthermore, it was found that the blood serum of an animal inoculated with bacteria in a non-fatal and repeated dose contained an antitoxin. When the blood serum of the infected animal was injected into a healthy animal, the latter was protected against the original disease. Antitoxin was, therefore, proved to be formed in artificial media of bacterial cultures and in the bodies of infected animals. When the antitoxin thus formed was injected into an animal, it had the power to protect it against the particular bacterial infection or, if given subsequently to the infection of the animal, to mitigate the severity of the disease or to entirely check it.

Thus, by Koch and his students, was serum therapy established as a principle. Upon this principle there has been established and given to the world the antidiphtheritic serum of Behring and of Roux. A curative or immunizing serum has been developed for Asiatic cholera, tetanus, erysipelas, plague, epidemic dysentery, streptococcus infection, and other diseases. While the serum treatment has not proved successful in all the diseases in which it has been used, it has been so successful in some—diphtheria, for instance—as to firmly establish the principle of serum therapy.

INFLUENCE OF BACTERIOLOGY UPON PRACTICAL MEDICINE AND SURGERY

These practical results in specific prophylactic and curative therapy are but a part, however, of the influence which bacteriology has had upon medicine. The stimulus given by bacteriology to the study of pathological anatomy, physiological chemistry, clinical phenomena, and physical and chemical changes of the fluids and tissues of the body has resulted in a knowledge so comprehensive that medical science has been revolutionized within the last twenty years. Speculative theories and hypotheses have given place to facts based

upon sound principles proved by experiment and clinical observation.

Bacteriology made possible the comprehension of perfect cleanliness and enables the surgeon to invade every part of the body without fear of infection and has saved thousands of lives which twenty-five years ago perished miserably as the result of disease at that time "inoperable," or the result of infection from contact with the surgeon. By means of cleanliness and skill, induced by a broader experience, the surgeon has been able to add to our knowledge information of great value which could have been obtained probably in no other way. He has been able to study disease in the living body and show the relation of a disease process to infection. He has thus been able to clear away many of the misconceptions of symptomatology and diagnosis, especially in disease of the abdominal organs.

Bacteriology has stimulated laboratory clinical diagnosis. Bacterial reaction to sera and blood cultural tests are of the greatest aid to diagnosis. Clinical research work has command of an armamentarium consisting of a knowledge of pathological anatomy, of physiology, of bacteriology, of chemical physiology, and of physics which allows of a precision in diagnosis never before at the command of the physician.

From the foregoing it seems sufficiently demonstrated that to-day medical science possesses a knowledge so exact that we may answer definitely the question of our relation to the commercial affairs of the world. Infectious diseases which affect agricultural interests, like swine plague, rinderpest, fowl cholera, glanders, tuberculosis, actinomycosis, trichinosis, and many of the parasitic diseases of plants and of animals have been studied by scientists with definite results.

PREVENTION OF INFECTION

To-day no sane man believes in spontaneous generation. The presence of an infective disease, either bacterial, protozoic, parasitic, or fungous, means the recognition of progenitors in the near environment of the infected organism. In practically every one of the diseases of animals above named the scientific investigator has already discovered the nature of the infecting agent, knows its life-history, what conditions are most necessary for its propagation and multiplication, and what will remove and annihilate so dangerous an enemy.

Our Department of Agriculture, and especially the Bureau of Animal Industry, has done much to place comparative medicine on a scientific basis. Briefly stated, there is not a fungous-parasitic, animal-parasitic,

protozoic, or bacterial disease of the lower animals which cannot, with our present knowledge, be stamped out for all time.

Why do the acute epidemic infections attack the swine, fowl, and cattle of the agriculturist? Because the causative germ is allowed to live and multiply after a former epidemic or it is transplanted from place to place by infected animals or by fomites. All of these acute diseases of the lower animals are preventable. One has but to read of the labors and investigations of Pasteur in relation to charbon, to the silkworm disease, and to fowl cholera to know what indifferent, careless methods may do to prolong and propagate an infection.

This may imply the loss of infected property by the individual, the municipality, the state, or the national government, but fall the loss where it may, it is often necessary to destroy absolutely the infected organism that the greater commercial interests as well as the health of the people may be preserved. For example, actinomycosis of cattle, trichinosis of swine, tuberculosis of cattle may be absolutely controlled and finally obliterated by proper sanitary measures. The expense of such an undertaking would be relatively great, but under the direction of scientists it can be done. Pasteur, with the aid of the government of France, abolished swine plague, charbon, silkworm disease, and other conditions harmful to the agricultural interests, with the result that millions of francs were saved to individuals, to corporations, and to the government. The same happy result would occur here, and in addition the health of our people would be protected against the possible infection with tuberculosis, actinomycosis, trichinosis, and intoxication from other infected animal foods.

SMALLPOX

But what of the epidemic scourges of the earth, smallpox, yellow fever, cholera, and the plague? No rational individual can for a moment doubt the protective influence of bovine vaccination against smallpox. Let one but look up the statistics of the mortality of this disease in the antivaccination period, and he will become convinced of the utility of the protective vaccination. In London the annual mortality from smallpox from 1660 to 1810, per million of the population, was 2,040 to 5,020, while with vaccination, not adequate, however, the death rate per million was from

| | |
|-------------------------|-----|
| 1831 to 1853..... | 830 |
| 1838 to 1853..... | 513 |
| 1854 to 1871..... | 388 |
| 1872 to 1882..... | 262 |
| 1883 to 1892, only..... | 73 |

In Germany, where variola had decimated the population in the prevaccination period, thorough vaccination has practically stamped out the disease. Compulsory vaccination properly enforced would effectually eradicate the disease and would free commerce of the losses due to quarantine regulations. The question of individual rights, especially under a republican form of government, is debatable when one considers that science has proved the efficacy and utility of protective vaccination against variola, that with modern methods the process is free from the danger of inoculation with any other disease, that vaccinia is practically a harmless disease, and, finally that an individual right may become an evil when the practice of it subjects others to unnecessary risk.

Medical science, therefore, possesses the knowledge to rid the earth of variola. From a humanitarian point of view, this knowledge is priceless. Still, let one but compute the sum saved to the nations of the earth by vaccination, estimating each life saved at \$5,000, the usual valuation placed upon human life by statute. Great as would be this sum, it is many times less than that saved to the commercial interests of the world by the control of the disease which even inadequate vaccination has afforded. Think for a moment of the loss to commercial interests by quarantine and other restrictive measures in the event of an epidemic of variola without protection from vaccination.

THE PLAGUE

The plague, the Black Death, which was first recognized in Europe in the year 543 as the *peste Justinienne*,¹ became pandemic in the fourteenth century and 24,000,000 people are said to have died of it. In 1655 London alone lost 70,000 people from the plague. It disappeared from Europe about 1720. It continued, however, in Egypt, Asia, and other Eastern countries in small foci, occasionally occurring as severe local epidemics. In 1830, 60,000 people died of the pest in Bagdad. During the remainder of the nineteenth century it appeared sporadically in Asia, Turkey, Tripoli, Persia, and other Asiatic countries. In 1891 it reappeared in epidemic form in middle China. From that date to the present time it spread over China, reaching Canton in 1894, Hong Kong in epidemic form in 1896, and Bombay in the same year. It appeared in Oporto in 1899, in Glasgow in 1900, and in San Francisco in 1901, not to mention sporadic cases elsewhere in seaports of Europe and Central and South America.

¹ Ph. Hauser, *Le Peste dans les temps anciens*, etc., Paris, 1900.

In 1894 Dr. Yersin, director of the Pasteur Institute at Hong Kong, discovered the *Bacillus pestis*. He elaborated a serum which has since been used with success as a prophylactic and curative agent. Haffkine prepared a protective vaccine which has also proved successful as a protective inoculation. It has been used in hundreds of thousands of cases in India with no harmful results, and is said to reduce the susceptibility at least 75 per cent. and the mortality about 90 per cent.²

The plague, the Black Death of the fourteenth century, still exists and rages with fearful mortality in communities which have no regard for hygienic surroundings. It is communicated to people through the abraded skin, or by flea bites, through the respiratory tract apparently by bacteria in dust-laden air, and also through the alimentary tract by contaminated ingesta. Modern hygienic measures, which consist of perfect cleanliness, isolation, the destruction of vermin, and the use of Haffkine's vaccine as a prophylactic and Yersin's curative serum, serve to control the disease. There can be no doubt that if sanitary authorities will take proper precautions to recognize the disease, proclaim its presence, and then control it by the means which science has discovered, the terrible scourge may be safely held in check and finally abolished altogether from every civilized community.

The value to commerce of the discoveries of science in relation to the plague cannot be computed. While the knowledge of its cause and prevention is exact, the impossibility of controlling the unsanitary conditions of the countries of the East and even of our own western world makes it necessary to continue the quarantine regulations which so often restrict commercial ends.

YELLOW FEVER

The mortality from yellow fever in the United States during the last one hundred years, 1798-1897, has been about 80.665.³ This gives an average annual mortality of 807.

Several severe epidemics have occurred, and it has prevailed extensively in smaller towns where the mortality records have not been kept. Hence the foregoing figures do not represent the full annual death rate from the disease. Yellow fever has been the scourge of the West Indies, Central and South America, Mexico and our Gulf States.

Recognized as an infective disease, indefatigable search has been made for the bacterial cause by many earnest workers. Apparently up to the present time the specific infective germ has not been found. Indeed, from a recent paper⁴ by Reed and Carroll, it would seem that the bacterium must be infinitesimally small.

Although we do not know the specific bacterium of yellow fever, a most brilliant discovery has been made of the means of transmission of yellow fever by means of the mosquito (*Stegomyia fasciata*) by two of our countrymen:⁵ Walter Reed, surgeon U. S. A., and James Carroll, contract surgeon U. S. A. Twenty years ago Finley associated the transmission of yellow fever with the mosquito, but no proof of this was given until the epoch-making and decisive experiments of Reed and Carroll. Furthermore, these experiments proved that fomites contaminated with the vomitus and discharges of yellow fever patients did not transmit the disease to man.

In Havana, Cuba, the sanitary authorities of the United States have attempted during the last year or more to test the fact of yellow-fever transmission by the mosquito. To this end the city was made clean; the breeding places of mosquitoes in and about Havana were destroyed as far as possible, and persons suffering from yellow fever were isolated and protected from the mosquito. Thus the number of mosquitoes was much diminished and care was taken that remaining mosquitoes did not become infected by biting yellow-fever patients. As a result yellow fever disappeared from Havana and for the first time in years no case had occurred up to May 1 of this year. The usual marine quarantine regulations of the United States restricting the non-immune travel from Cuba were postponed. Furthermore, the Congress of the United States will probably modify the quarantine regulations in reference to yellow fever to meet the more hopeful conditions which the researches of Reed and Carroll have established in relation to the definite transmission and control of the disease.

There can be no doubt of the practical value of this important discovery to mankind. Proper sanitary measures in reference to cleanliness, the destruction of mosquitoes and their breeding-places, and proper precautions against the infection of the few undestroyed mosquitoes by isolation of every imported case of yellow fever

² *Pacific Med. Jour.*, January, 1901

³ Obtained from the records through the kindness of Surgeon-General Walter Wyman, U. S. M. H. S.

⁴ "The Ætiology of Yellow Fever," *Am. Med.*, Feb. 22, 1902.

⁵ "Experimental Yellow Fever," *Trans. of the Assoc. of Am. Phys.*, XVI, 1901.

will eradicate the disease from every civilized country.

MALARIA

Malaria has not borne so important a relation to commercial communications between peoples as yellow fever and the plague. Nevertheless, it has had an enormous influence upon the health and prosperity of the inhabitants of certain regions where it is endemic and at times epidemic in its prevalence. The principle which prevails to induce malaria in a certain region is the existence of human malaria and of the mosquito of the genus *Anopheles*.

The mosquito is annoying but harmless until she becomes infected with malaria by biting a human being infected with the disease. Such an infected mosquito may inoculate all the people she subsequently stings. In this manner a region ordinarily free from malaria may become infected by the importation of a case of malaria from a distant point. It is also possible that a mosquito infected with malaria could be transported by railroad or ship in the luggage or clothing a considerable distance, and then sting and infect individuals in its new environment.

We have many examples of infection of people in localities usually free from malaria through its introduction by means of imported laborers employed in the construction of railroads, canals, etc. Malaria was rarely found in Chicago until 1891, when the construction of the World's Fair buildings was commenced. Then it was attributed to the excavations and the turning of virgin soil. The construction of the Chicago Drainage Canal began at the same time and continued until 1900. During that period malaria was constantly present in Chicago, and in 1898-9 was augmented by importation of infected soldiers from Cuba and other malarious regions. No one can doubt that malaria was imported in the persons of some of the foreign laborers employed in the above-named enterprises, and that the previously innocent anopheles became infected and afterward inoculated many people who suffered from malaria at the period named.

The mortality of malaria in malarious districts with a considerable population is large. Thus Professor Celli⁶ says that the mean mortality from malaria in Italy is about 15,000 victims annually, and that about 2,000,000 cases occur in Italy each year. As the mean duration of malaria is generally long, sometimes infecting the individual for years, the loss of labor and of

production and the expense entailed in dealing with the disease amount to several millions of francs. Furthermore, Celli says that owing to malaria about 5,000,000 acres of land remain uncultivated, with a resulting large economic loss. According to the very accurate calculations of Ricchi, the Adriatic Railway Company, with 1,400 kilometers of road and employing 6,416 men, spends on account of malaria alone 1,050,000 francs a year. In the Italian army in the twenty years from 1877 to 1897 there occurred more than 300,000 cases of malaria. Finally, Celli says malaria annually costs Italy incalculable treasure.

Malaria is so widely disseminated over the world and the opportunity for continued infection of the mosquito so great that it seems almost hopeless to try to eradicate the disease. The principle upon which malaria may be fought has been suggested by science and has proved of value. This consists in the destruction of the mosquito and its breeding places, the prevention of the infection of the remaining mosquitoes by isolation of the malarious individual from the mosquito, and the diminution of malarial material in man by an attempt to cure him with quinine and other antimalarial remedies.

Experiment has already demonstrated that non-immune individuals may live safely in the most malarious districts, with adequate yet simple protection from the sting of the mosquito infected with malaria. Man thus protected against malaria may now explore, settle in, and develop regions of the earth hitherto inaccessible because of the very great danger from the deadly tropical malaria.

This address would become too long were one to take up other infectious diseases, although in some of them the science of medicine has made such successful investigations that the knowledge of the cause, means of propagation, and dissemination is exact.

TYPHOID FEVER

I cannot close without saying that if in typhoid fever we could employ, unembarrassed by the great cost of the necessary measures, the precautions which science affords to prevent water and food contamination, the disease would be effectually abolished. The great cost of the measures necessary to stamp out typhoid fever would, however, be an economic measure, inasmuch as the immense value to the state of the conservation of the labor of the thousands of sick and the lives saved each year would more than compensate for the treasure spent.

⁶ "Malaria According to New Researches," 1900.

VALUE OF MEDICAL SCIENCE NOT RECOGNIZED

However much medical science has done for humanity and great as the value of the knowledge of infectious disease is to the commercial interests of the world, scientists have not, especially in our own country, received the recognition and financial aid from the state, from corporations, or from wealthy individuals which they deserved.

MEDICAL SCIENCE SHOULD RECEIVE FINANCIAL SUPPORT

Medical science should receive the moral and financial support of states and municipalities in the employment of the measures which science has proved to be efficacious in modifying, restricting and abolishing infectious disease. Wealthy corporations and individuals should establish institutes of original research in properly constructed and equipped hospitals and laboratories. There the many earnest, indefatigable, and conscientious medical investigators could make more perfect the knowledge we already possess of many of the infectious diseases and unembarrassed by financial needs, could search for the cause, the means of transmission, and the prevention and cure of the diseases of which we know but very little.

Funds, too, should be created to support the cost of committees of scientific investigators in regions now dangerous to the white man. By such means the many plagues of the tropics would be investigated and conquered. Regions uninhabitable or dangerous to the Caucasian would become accessible to settlement and commercial intercourse. Civilization, humanity, and commerce would be advanced and multiplied.

It is right, therefore, that medical science should demand of the moneyed interests of the world the recognition which, though long withheld, is her just due. This she asks, not that individuals may profit in either fame or fortune, but that she may the more readily rid the world of infectious diseases for the sake of humanity.

THE PLACE OF DRUGS IN THE TREATMENT OF STOMACH TROUBLES¹

By Boardman Reed, M.D.

THE place of drugs in the treatment of many stomach troubles is in the drug-store. This is true not only of certain affections, such as some of the forms of nervous dyspepsia, and of gastralgia, etc., which are frequently merely symptomatic of disease in

the nerve centers or elsewhere; it is true also of some others which really do involve the stomach.

The drugs that are usually so freely administered in these cases without an exact diagnosis having first been made would be far better in the drug-store than in stomachs which do not need them—to which also they are often sadly unsuited.

At all events, it is likely that the majority of medicines administered empirically in cases of so-called dyspepsia, do more harm than good; and even after an accurate determination of the actual existing pathologic condition by a thorough external examination of the abdomen, a urinalysis and a chemical and microscopic examination of the stomach contents (with possibly one also of the feces), it is often found that hygienic or mechanical measures, such as a carefully selected diet, a freer use of pure drinking water, exercise, massage, electricity, etc., will accomplish much more than any course of medication.

Besides the numerous cases of indigestion which result directly or indirectly from imprudent eating and imperfect mastication, a large proportion of complaints of pain or discomfort in the stomach are either reflex phenomena or functional disturbances, the indirect consequences of unhygienic habits of work or play. Inordinate mental or nervous strain results in persons who have long overworked or over-dissipated with the help of stimulants (such as alcohol, strong coffee or tea, etc.), or of powerful nerve tonics; also, and perhaps with almost equal frequency, in persons addicted to sexual excesses or irregularities, including those who indulge in ungratified sexual excitement, as occurs so often with engaged lovers. In married persons, too, when the attempt is made to avoid offspring by incomplete coition (*coitus interruptus*) the nervous system is always seriously injured sooner or later in one or both, and in all these instances of unnatural or unhygienic sexual practices the digestive function would seem to be often prominently involved.

In the neuroses of the stomach and in gastric upsets through the medium of injured nerve centers, drugs, while useful at times, especially for temporary alleviation, should play a subordinate rôle. This is particularly true when stimulants and nerve tonics have been already abused. What is wanted here is to get rid of the cause—*tolle causam*—besides rest and time for recuperation of the exhausted nerve centers, with outdoor air, plenty of natural sleep, nourishing food, change of climate, sometimes, and often the mechanical methods of treat-

¹ Read at the annual meeting of the Alabama State Medical Society.

ment. The over-ambitious professional or business man must be gotten away from his too engrossing occupation by a sea voyage or sojourn at the shore, a hunting trip, or, in the worst cases, a rest cure, when there is nervous prostration showing itself often most conspicuously by anorexia in addition usually to headache and insomnia, by nausea and vomiting after meals, and sometimes by severe gastric pain as well, without any organic basis for such symptoms being discoverable in the digestive tract.

In the case of the betrothed couple, one of them needs to be sent away, it matters little which one, for a month or two at least, and usually it is better that they remain apart till the wedding day. In a number of instances I have been obliged to send to a sanitarium, or upon a prolonged trip, the weaker of a couple of engaged young people, most commonly the lady, though not always because her stomach had given out. In some of the cases there would be good health for a short time after marriage, till the results of the prevalent conjugal onanism, practised to prevent conception, began to impair the nervous system of the weaker vessel again, when I would ward off another threatened breakdown by a stern moral and hygienic lecture. Then for a time all would go well again; I would lose a patient and some obstetrician or family physician would gain one.

More hygienic habits and a more physiologic way of living, aided by a period of partial or complete rest, and when necessary by electricity, especially the galvanic or high tension faradic currents intragastrically, light exercise, either active or passive, or both, and by the judicious use of water internally and externally, will cure most cases of neurasthenia with very few or no drugs, whether the gastro-intestinal tract or other regions be prominently implicated. Still, the usual nerve tonics, such as small doses of the bromides, the hypophosphites, the glycerophosphates, amine phosphoric acid, and the preparations of iron, zinc, arsenic, silver, and gold can often be so judiciously employed as to assist the cure in cases in which they have not already been long administered for the reprehensible purpose of enabling the patient to go on overdoing or to persevere in violating Nature's laws in other ways.

The great secret in such conditions is to study each case by itself with the knowledge ever in mind that while some neurasthenics and nervous dyspeptics do not respond to anything less than the largest doses of nervine remedies (though even these patients are injured by them finally), others

are seriously over-stimulated—poisoned really—by what might seem ridiculously small doses. The only safe rule is to begin with minute doses and gradually increase if necessary, always being content with the smallest that will produce the desired effect. When these cases of nervous dyspepsia are long neglected, serious derangement of the gastric secretion and impairment of the gastric motor power are likely to occur. Then certain special stomach remedies may come in place.

In diseases that really involve the stomach, there is frequently a place for drugs, and in certain of them a very important one, when you have learned exactly in what way the organ is affected; but the fact needs to be strongly emphasized that the old-fashioned method of treating all dyspeptic complaints as a single entity, and pouring into the unfortunate victim an endless variety of alleged remedies at random, is a dangerous kind of experimenting, which in this age of the world, with our improved methods of reaching an accurate diagnosis, is no longer defensible. It can only be excusable to prescribe thus blindly in cases where, on account of acute disease or of extreme age or debility, the use of the tube or of any intragastric instrument is impracticable. Even in such cases, however, very much can often be done by an expert external examination to aid in reaching a definite diagnosis, particularly with regard to the size, position and motor power of the stomach, as well as the fixity of the kidneys, one or both of which will be found loose and more or less movable in a very large proportion of our modern women who conform to the prevalent fashions in dress; also the position, sensitiveness, and size of the colon, especially its head and transverse portion. All of these conditions have a direct bearing upon the functioning of the stomach, and an accurate determination of them, or even the most important of them, will enable you to use drugs with much greater precision and prospect of benefit than is possible without such knowledge.

The administration of alkalies is generally necessary in excessive secretion of the HCl of the gastric juice, whether it be in the form of an excess of the same during the digestive periods only, as is most common, and known as hyperchlorhydria, or a persistent flow during all the twenty-four hours of every day, as in Reichmann's disease, or a paroxysmal flow with very large excess for a few days at a time, as in gastroxynsis. This treatment is necessary whether the HCl excess is a merely functional derangement, or is associated with

either an acid gastric catarrh or with round ulcer of the stomach. The selection of the alkali in such cases is not a matter of indifference. When the bowels are not in need of a laxative, sodium bicarbonate in doses of from 15 to 60 grn. given two hours after each meal, and in the worst cases combined for a week or two at first, with small or moderate doses of either belladonna or atropine, will be usually most useful. Sometimes it is better to administer, at the same periods, a combination of sodium bicarbonate, 15 grn.; bismuth subnitrate or subcarbonate, 15 grn., and calcined magnesia, 10 to 20 grn.; according to the condition of the intestines, the dose of the magnesia being adjusted so as not to allow constipation to result from the bismuth. In many such cases magnesia, having a far greater alkalinity, acts better than soda, since large doses of soda are required when the latter is given alone.

In the constipated cases, a similar combination with a sufficient increase of the magnesia to insure regular evacuations, usually suits well, and the belladonna here affords valuable assistance in bringing about a freer opening of the bowels. The HCl excess often depends upon reflex irritation from a movable kidney, and then drugs will do little good till the latter can be held in its normal place.

When the hyperchlorhydria has already developed into gastric ulcer, the opportunity is afforded for some of the most brilliant results obtainable in the therapeutics of any chronic disease. The patient then needs to be confined at first strictly to bed and fed for one or two weeks by nutritive enemas exclusively; after that food by the mouth may be taken. One or two goblets of milk, containing preferably a tablespoonful or two of lime water in each, should be given every two or three hours during the day and evening, with an enema of eggs and milk or beef juice, in addition, once or twice daily. Bismuth subnitrate or subcarbonate must then be given in doses ranging from 30 to 40 grn. and sometimes 60 grn. three times a day, from the beginning of treatment, and when the excess of HCl is very large or persistent, it may be necessary to give besides the combination of alkalies and belladonna above mentioned. After a week or two in bed with such treatment, the patient may be allowed to sit up and exercise a little about his room, but the predominant milk diet with the addition gradually of other bland foods, such as plasmon, beef juice, and soft eggs, and the same medicinal treatment, should be continued for two or three weeks longer at least, when in most

cases the ulcer will be found to have been healed.

In the case of ulcers in which there has not been any recent hemorrhage, experts with the stomach-tube no longer hesitate to make tests of the gastric juice, though I would not recommend those who are not adepts in introducing the tube to venture upon its use in such cases. Massage of the abdomen is contra-indicated not only in ulcer but also in all the forms of hyperchlorhydria.

In the opposite condition of a deficient secretion of the gastric juice, especially of the HCl—such as obtains generally in old cases of chronic gastric catarrh of the atonic type, and even also in some cases of chronic nerve exhaustion of long standing—an entirely opposite line of treatment is necessary. In many of these cases nothing effects such prompt beneficial results as the administration of the official dilute HCl in doses of from 5 to 30 drops, combined usually with pepsin. Rarely have I found it advantageous to increase the dose beyond the latter amount, even when the deficiency in the secretion of HCl has been very great, notwithstanding the recommendations of some high foreign authorities in favor of colossal doses of the acid. These recommendations are based upon theoretic grounds, especially the fact that it would require several drams of the dilute HCl to meet the requirements of the stomach in the digestion of a large mixed meal. The truth is that the usefulness of the HCl as a remedy consists mainly in its stimulating action upon the secreting cells of the stomach, and probably not to any considerable extent upon its power of supplying the place of the absent or deficient gastric juice. My own experience, which is amply supported by that of numerous other careful observers, proves beyond question that HCl does, in many cases, gradually bring up the secretion of the normal acid of the stomach to its proper level when deficient or even almost absent previously.

Experience demonstrates also that very large doses, and even in fact moderate doses, sometimes markedly disagree with stomachs which careful tests show to be greatly in need of the remedy. A burning pain is often produced by it in such oversensitive stomachs, and it is necessary, therefore, in these cases, to administer it a little at a time. The appropriate dose should be added to a half tumbler of water and taken in sips every few minutes during the hour following each meal. I am accustomed to prescribe the remedy in this way in all cases where such a prescription is in-

licated, and my patients frequently allude to it familiarly as "the sips." In these cases characterized by deficient secretion, benefit may also be obtained often by the administration of the bitter tonics, especially nuxvomica, quassia, columbo, etc., and Éwald, among other German writers, strongly recommends condurango bark for the same condition.

Massage of the abdomen and also exercises for the trunk muscles, such as body bendings, twistings, etc., are non-medicinal measures which help to restore the secretion of the gastric juice when the peptic glands have been impaired but not destroyed. When the HCl and pepsin, as well as the rennet ferment, are entirely wanting, as in gastric atrophy, it is generally best to abandon all efforts to promote peptic digestion and administer full doses of a good preparation of pancreas with an alkali.

In atrophy, too, strychnine may be useful to assist in overcoming any coincident deficient motor or propulsive power (which is an especially serious complication here), though gymnastics, massage, hydrotherapy, electricity, and especially intragastric faradism, will, any one of them, as a rule, accomplish more in such atonic conditions, as also in dilatation of the stomach from atonic causes.

Dilatation may also result from pyloric cramp, *i.e.*, a spasmodic contraction of the outlet of the stomach, which is usually dependent upon the combination of a hyperesthetic mucous membrane with a very excessive secretion of HCl (hyperchlorhydria)—possibly also a combination of the former with a large amount of free organic acids from the fermentation of carbohydrates. In such conditions, and also in gastralgia from excessive HCl or from an unknown cause, it is proper to administer soda, potash, or magnesia, in full doses, and, if necessary, at short intervals until relief, so as to neutralize beyond question all the free acid of any kind in the stomach; also belladonna for both its depressing effect upon the secretion of HCl and for its antispasmodic action. A course of arsenic may further be given for its specific nervine and antineuralgic action, though sometimes phosphorus or some other tonic will do as well, or better. This line of medication will generally be found more effective than opiates, which are now known to increase secondarily the secretion of the peptic glands, besides stopping the bowels and thus in the end often producing an aggravation of the gastric distress.

For the graver forms of dilatation due to tumors in or near the pylorus, or other me-

chanical cause of obstruction, surgical intervention alone can be effective, though lavage with antiseptics may palliate for a while.

As to gastritis in the acute form, after putting the patient to bed, stopping all food and allowing water in small frequent sips only, no medicines are really required as a rule, except when necessary to open the bowels. Then $\frac{1}{10}$ - to $\frac{1}{3}$ -grn. doses of calomel every half hour, or hour, till effect, will do more at first than anything else to hasten the subsidence of the nausea and vomiting, except a warm wet compress over the stomach externally and small pieces of ice internally. When such an attack persists after the calomel has acted, a mixture of bismuth 5 to 10 grn., with $\frac{1}{4}$ - to $\frac{1}{2}$ -drop doses of carbolie acid flavored with peppermint, frequently repeated, is very effective.

In chronic atonic gastric catarrh, the bismuth and carbolie mixture will accomplish generally as much as any remedy administered per os, but lavage every day or two with a combination of soda and common salt in the first wash water (a teaspoonful of each to the quart), followed with a weak solution of alum ($\frac{1}{2}$ dram to the quart), silver nitrate (10 to 15 grn. to the quart), or other antiseptic astringent, can do still more in skilled hands; and the diet is all important. These solutions for lavage should be followed by washing out with a pint at least of plain warm water, and, in the case of a silver salt, with a solution of table salt.

Tumors of the stomach are always cases for the surgeon, except when malignant growths have progressed too far before discovered. In the time to come this will less frequently happen, because physicians will in suspicious stomach cases obtain expert counsel at a stage of the growth when the subsequent calling in of the surgeon will not be in vain. In non-operable cases of cancer or sarcoma the main reliance must be on opium. Lavage with antiseptics will prolong life and lessen the misery when the pylorus is involved with resulting dilatation.

In displacements of the stomach, unless the organ has been pulled down by a morbid growth, there is usually no need of surgery. Strychnine and diet will do something; abdominal supports, gymnastics, massage, electricity and hydrotherapy can do very much. Indeed in all the cases I have ever seen, these measures, when they could be long persevered with, have effected marked improvement, and in most of the cases not too aggravated, a virtual cure has finally resulted.

Progress in Materia Medica and Therapeutics

ALCOHOL IN CARBOLIC-ACID BURNS

The following case, showing conclusively the great value of alcohol as a carbolic-acid antidote, is reported by Dr. S. R. Blatteis.¹ A man, shoemaker by occupation, suffering with some stiffness in his leg, and wanting to limber it up by the application of a liniment, by mistake got hold of a bottle of pure carbolic acid. He rubbed this over the anterior and lateral surfaces of the entire left leg. In about three minutes he experienced an intense burning sensation over the parts. He grew dizzy and nauseated and fell to the floor.

The doctor found him in a semi-comatose condition, with sighing respiration, small feeble pulse, and the surface of the body cold and clammy. From a hurried inquiry into the history the etiology was apparent. He sent immediately for alcohol, 95 per cent., and applied it most liberally over the entire burnt area, and kept cloths saturated with it applied for about half an hour. The constitutional condition had become alarming, and it required radical treatment before reaction took place.

At the end of a half-hour application of the alcohol the burnt area, instead of being extensively hyperemic, was pale, differing from the color of normal skin in that it had a yellowish tinge. A simple ointment was now applied and the entire limb bandaged. At the end of thirty-six hours the bandage was removed; the skin was found to be nearly normal, no denudation had taken place, and within five days the patient had full use of the limb with the exception of a slight stiffness.

There were a number of burnt patches on the other leg and thigh where it had come in contact with the left. Deciding to make a comparative test, the author did not apply alcohol to these patches, but only the ointment. The difference was striking. The skin retained its intense hyperemic condition, a number of blebs formed, and all the pain of which the patient complained was referred to these patches. They must still be dressed, while the other leg is perfectly normal.

The case presents a number of other interesting points, viz.: The rapid absorbing power of the skin; only about three minutes sufficed to produce marked constitutional disturbances from absorption of the drug. The first urine voided was almost black with

a distinct smell of the acid; it contained a very heavy precipitate and albumin, the latter not having totally cleared. The occupation (shoemaker) had toughened the skin of the palms so that, although the acid came in contact with them, they did not at any time exhibit a lesion or experience any smarting; but the interdigital folds of skin showed all the effects of the acid.

THE INTRAVENOUS USE OF ARSENIC COMPOUNDS

The discovery of cacodylic preparations have brought about a revival of arsenical therapy, by affording a safe method of introducing the element into the system. Cacodylic compounds were employed subcutaneously in gradually increased doses. Finding this method perfectly safe and free from disagreeable effects, and remembering that arsenic is not a blood-poison, Dr. F. Mendel¹ began to experiment with intravenous injections of cacodylic salts. An experience of over 400 cases has shown him that this method is as safe and reliable as the hypodermic—in fact, more so. The action is more prompt and certain. The technique is very simple. An ordinary hypodermic syringe suffices. It is hardly necessary to mention the imperative necessity of the strictest aseptic precautions.

The author treated various diseases in this manner: anemia, tuberculosis, diabetes, scrofula, nervous disorders, skin affections, and cancer. Sometimes, as in cancer of the breast, in sciatica, and in scrofula, the remedy is best injected *in loco*.

In anemia and chlorosis the results obtained from cacodyl therapy were brilliant. Several injections sufficed to mark the change for the better, and in four to six weeks a cure was effected. Sodium cacodylate was used, the beginning dose being $\frac{5}{8}$ grn. daily, increased up to $1\frac{1}{2}$ grn. every second day. In severe cases the daily dose was about 3 grn. After three weeks' treatment, a pause was made for a week, and the medication then resumed. Occasionally the remedy was given internally, in pills or according to this formula:

Sodium Cacodylate..... $\frac{1}{2}$ dr.
Rum.
Syrup. of each..... 4 dr.
Distilled Water..... 2 oz.
Peppermint Oil..... 2 drops

A teaspoonful contains $1\frac{1}{4}$ grn. of sodium cacodylate.

• In tuberculosis the mode of administering

¹ Amer. Med., III, No. 20.

¹ Therap. Monatsh., XVI, No. 4.

the remedy was essentially the same as in anemia, and the success very encouraging, especially in a case of urogenital tuberculosis. In sciatica and in palsies the sodium cacodylate was given locally under the skin in doses of $1\frac{1}{4}$ grm., with good results.

To recapitulate: We possess in sodium cacodylate a remedy which enables us to introduce large quantities of arsenic into the system, without producing intoxication.

The best and safest method of administering arsenic is the intravenous injection of sodium cacodylate, using solutions of 5-per-cent. strength for the purpose.

THIOSINAMINE IN THE TREATMENT OF NON-MALIGNANT STRICTURE OF THE ESOPHAGUS

Dr. L. Teleky¹ reports several cases where the administration of thiosinamine was followed by softening and yielding of scar-tissue. In two cases of old-standing stricture, due to swallowing caustic potash, which resisted the passage of bougies beyond No. 17, after prolonged treatment, the administration of thiosinamine caused softening and yielding of the constricting tissue, sufficient to admit bougies up to Nos. 21 and 22. Teleky advocates the employment of this drug only in cases of at least six months' duration, as very recent scars may give way altogether under its influence. He instances a case where he administered thiosinamine twelve days after doing gastrostomy for esophageal stricture. Up till that time the fistula worked perfectly, and the stomach retained its contents, but after the first injection of thiosinamine the adhesions gave way with disastrous results. In cases of malignant disease its use is not advisable, owing to its lymphagogue action, which might lead to metastasis. Similarly, in patients who have healing tuberculous lesions in the lungs or elsewhere, it is contra-indicated, as cases have been recorded where inflammatory processes have been aggravated under its influence. Its employment is only indicated where it is desired to soften and stretch old-standing scars—e.g., in simple stricture of the esophagus, adhesions around joints, stricture of the urethra, etc.; any active inflammatory process is aggravated by its use. Dr. Teleky employs a 15-per-cent. alcoholic solution for hypodermic injection, injecting from 3 to 10 minims every second or third day.

A NUTRITIVE LEMONADE FOR FEBRILE AND WASTING DISEASES

The patient who has been put on a liquid diet has a very limited choice of articles. Milk, beef-tea, whey, barley-water, and

lemonade comprise about the entire bill of fare. Some of these preparations have little nutritive value, while milk soon palls upon the patient. A pleasant addition to the dietary is, therefore, welcome. Dr. R. W. Leftwich¹ proposes a white-of-egg lemonade, which is at its best when made in the following manner: Two lemons; the whites of two eggs; 1 pint of boiling water; loaf sugar, to taste. The lemons must be peeled twice, the yellow rind alone being utilized, while the white layer is rejected. Place the sliced lemon and the yellow peel in a quart jug, with, say, two lumps of sugar. Pour upon them the boiling water and stir occasionally. When cooled to about the ordinary temperature of tea, strain off the lemons. Now insert an egg, whip, and when lemonade is in full agitation, add slowly the white of egg. Continue the whipping two or three minutes more. While still warm, strain through muslin. Serve when cold. The white of egg imparts a blandness which makes the addition of sugar almost unnecessary, and this absence of sweetness is greatly appreciated by the feverish patients. This lemonade is a most excellent drink throughout the course of typhoid. Probably contra-indicated in Bright's disease, and in gastric ulcer.

UNGUENTUM CREDE IN PUERPERAL SEPSIS

Dr. Ludwig Geiringer² reports the case of a woman who, nine days after delivery, was brought to the hospital with all the symptoms of puerperal sepsis. Her temperature was 102.7° F., pulse 140; facies haggard; lips and tongue dry, furrowed, and thickly coated; her breasts still secreted a little milk. Her abdomen was distended, and very sensitive to pressure, but there was little spontaneous abdominal pain. There was a fissure about $\frac{1}{2}$ inch long at the introitus vaginæ, which was covered with masses of yellowish-gray exudate; and in the vagina itself were several ulcerations covered with membrane. An abundant foul-smelling secretion welled out of the os; but the uterus itself was well contracted.

The usual treatment of puerperal sepsis was first undertaken. The patient was given a thorough vaginal and intra-uterine-sublimate irrigation twice daily, and the ulcerations were treated with tincture of iodine. When the temperature became excessive, cold packs were employed. She was given three 8-grm. quinine powders daily, besides plenty of milk, cognac, malaga, and white wine. But in spite of these

¹ *Edinb. Med. Jour.*, May, 1902.

² *Wien. med. Presse*, Feb. 23, 1902.

¹ *Edinb. Med. Jour.*, May, 1902.

painstaking therapeutic measures her condition remained bad. The only improvement was in the vaginal ulcerations, which cleaned up. She had repeated chills with subsequent febrile rises to over 104° F. She was frequently delirious and somnolent. The prognosis could therefore only be regarded as absolutely unfavorable.

On the seventh day of her sojourn at the hospital, being the eleventh day after the advent of her fever, and the fifteenth day post-partum, the author decided to make a final attempt to save her by employing the unguentum Credé. Forty-five grains of the ointment were inuncted daily into the external surface of the thighs, hips, and arms. On the first night her sleep was quieter; no more delirium or chills occurred; the morning temperature on the next day was 98.2° F., and it only rose that evening to 100.9° F.; and the change in the subjective condition of the patient was remarkable.

The doctor ordered a continuation of the use of 45 grn. of the unguentum Credé for three days more. The patient's condition remained excellent; there were no further chills or noticeable rises of temperature. The patient felt very well, had a splendid appetite, slept soundly, and after three weeks' sojourn in the hospital, she was able to leave it perfectly well though still somewhat anemic.

In all, 5 drams of the Credé ointment were inuncted. The remarkable improvement was manifested when 2 drams had been employed.

Later on the author had several opportunities of employing the unguentum Credé in puerperal sepsis; but he only saw noticeably good effects which could unmistakably be attributed to the ointment in cases in which marked peritoneal symptoms were not present; cases in which the symptoms were rather those of a general septic infection. Cases in which the post-mortem examinations showed severe purulent infiltration of the parametrium and peritoneum, or a generalized diphtheritic inflammation of the endometrium, were entirely uninfluenced by its use.

ADRENALIN IN HAY-FEVER

There is increasing evidence that adrenalin fully meets the indications as a remedial agent in hay-fever. It controls the nasal discharge, allays congestion of the mucous membranes, and in that manner reduces the swelling of the turbinal tissues. As the nasal obstruction disappears, natural breathing is materially aided and the ungovernable desire to sneeze is mitigated.

Adrenalin blanches the mucous membrane by vigorously contracting the capillaries, and thus reduces local turgescence. In the treatment of hay-fever the solution of adrenalin chloride should be used. This preparation is supplied in the strength of 1 part adrenalin chloride to 1000 parts normal saline solution, and is preserved by the addition of 0.5 per cent. chlorotone. The 1:1000 solution should be diluted by the addition of 4 parts normal salt solution, and sprayed into the nares with an atomizer. In the office, the 1:1000 solution may be applied in full strength. A small pledget of cotton is wrapped about the end of an applicator and moistened with a few drops of the solution (1:1000). The speculum is then introduced, the patient's head is tilted backward in a position most favorable for thorough illumination by the head mirror, and the visible portions of the lower and middle turbinate bodies, and the septum, are carefully and thoroughly brushed. The same application is made to the other nostril, when usually relief follows, in a few moments. Should the benefit prove only partial, the 1:5000 solution may now be sprayed into both nares, and a few drops instilled into both eyes. The effect of this treatment may be expected to last for several hours.

It is also recommended by some that solution of adrenalin chloride be administered internally in 5- to 10-drop doses, beginning ten days to two weeks prior to the expected attack. In explanation of the beneficial effect of the drug when used in this manner, the suggestion has been made that hay-fever is essentially a neurosis, characterized by a local vasomotor paralysis, affecting the blood supply of the eyes, nose, face, and pharynx, and occasionally of the laryngeal and bronchial mucous membranes. Adrenalin overcomes this condition, restores the normal balance in the local blood pressure, and thus aids in bringing about a cure.

COPPER ARSENITE IN TYPHOID FEVER

Dr. L. F. Solomon¹ states his conviction based upon experience and observation in 27 successive cases that in arsenite of copper we possess one of the best therapeutic agents in typhoid fever.

The rationale he explains as follows:

The action of the drug is two-fold. In the first place, it is a well-known fact that arsenic is one of the most powerful, if not the most powerful, germicides of all known chemicals, and it is still more powerful as a germicide and antiseptic when combined

¹ *New Orleans Med. and Surg. Jour.*, June 1, 1902.

with copper. When the drug is administered to a person affected with typhoid fever, it has a direct influence upon and destroys the toxins generated by the typhoid bacillus. In addition to this general systemic effect, it has a direct local action upon the inflamed acuminated glands, because of the fact that when taken into the system, being a foreign substance or poison in the blood, it is eliminated, and in its process of elimination the intestinal tract becomes the agent for this purpose. It is a well-known fact that different drugs have each their point of selection through particular organs for being eliminated from the human economy. Some drugs are eliminated through the lungs, others are eliminated through the skin, through the kidneys and so on, each seeking its own particular organ of elimination. The arsenite of copper, while being taken through the intestinal wall, for the purpose of being thrown off, has its direct effect upon the local diseased condition.

As to the method of administration, the author says that the tablets or tablet triturates usually found in stock in the drug stores are not always to be depended upon for reliability and certainty in effect; at least such was his experience. Therefore, he uses the pure salt, and finds that he invariably gets good results by using Merck's chemically pure arsenite of copper, suspended in distilled water. His directions to the druggist are that it shall be well triturated in a mortar before being mixed. He generally prescribes $\frac{1}{2}$ grn. to 6 oz. of distilled water, which gives $\frac{1}{96}$ grn. to the teaspoonful dose. This is given every three hours. The mixture is to be well shaken before given because the salt will be found in the form of a flocculent deposit, which, however, on shaking remains in suspension long enough to be susceptible of equal division.

Of course the administration of arsenite of copper does not constitute the sole treatment of disease. It is only the agent which removes the cause, and other details require as much if not more care than the simple administration of the drug.

In other words, the proper management of each individual case is as necessary as the routine giving of medicine, and will do much towards securing a rapid and favorable termination of the case.

Daily flushing of the colon is essential for the removal of toxins and prevention of auto-intoxication from poisonous material held in the bowel.

The author condemns the use of antipyretics and of the Brand bath. If the temperature be high the wet pack and an ice

cap to the head are indicated; if the temperature is not too high, careful spraying under the bedclothes with a mixture of water and bay rum at a temperature of about 100° F. will keep the patient comfortable and have a soothing effect.

If the heart shows weakness, digitalis is the author's remedy. Strychnine is in the author's opinion more harmful than beneficial, because it is like the whipping of an exhausted horse. Digitalis on the other hand is a tonic to the muscles of the heart, slows its action, gives it some rest between beats and assists it to regain its force. Strychnine may, however, be given in small doses for its systemic effect. Regarding the dosage of digitalis, the author tells us not to expect much from the doses laid down in the text-books. He gives 20 to 40 minims of a reliable tincture, or $\frac{1}{25}$ grn. or larger doses of digitalis, repeated until a decided effect is obtained. The diet is very rigid; milk and broth; or, if these disagree, nothing but liquid peptonoids. Delirium, restlessness, and insomnia the author meets with opium. Under the treatment outlined the author has not seen a fatal case or a serious complication, or a case lasting more than fourteen days.

DORMIOL IN MENTAL DISEASES

Dr. Angelo di Nola,¹ of Rome, has used dormiol in a number of mentally affected patients, and expresses himself as very satisfied with the results. He gives the histories of twenty-one cases and reaches the following conclusions:

(1) Dormiol is a hypnotic which deserves the confidence of alienists. Its beneficial effects may often be manifest even in cases in which other hypnotics, like sulfonal and hedonal, etc., have failed.

(2) Its action is similar to that of chloral, without, however, sharing in the occasional disastrous effects of the latter. It is, therefore, especially indicated in cases of disturbed circulation.

(3) The prolonged use of dormiol does not seem to cause habituation or produce any disagreeable by-effects.

(4) It is not improbable that dormiol diminishes the frequency of epileptic attacks.

A NEW METHOD OF TREATING THE MORPHINE AND ALCOHOL HABITS²

Hyoscine seems to be a remarkably useful drug in the treatment of drug habits. In a previous issue of the ARCHIVES we referred to Dr. Lott's method of treating morphinomania by large doses of hyoscine.

¹ *Il Policlinico*, VIII.

Encouraged by Dr. Lott's reports, to whom full credit is given, Prof. H. A. Hare¹ decided to give the method a trial in his practice. He treated in all six cases, but two left the treatment before a cure was effected; nevertheless those cases served to corroborate Dr. Lott's statement as to the safety of the large doses of hyoscine. The results are noteworthy from the following points of view: First, the patients can take massive doses for days at a time, as much as $\frac{1}{4}$ grn. each day hypodermatically, with no evil effects on any vital function. Second, they suffer very slightly, if at all, from the immediate withdrawal of the morphine, and third, and more surprising, the desire for the drug is largely, if not entirely, dissipated after a few days.

The first case in which the author tried this plan was a man of about thirty years of age, who had employed morphine for a long time and who took about twelve grains of the drug by the mouth in each twenty-four hours. It seemed absolutely impossible to break up the habit and his mental condition was rapidly becoming exceedingly bad. The patient was put in the charge of a trained nurse and, under the care of his regular medical attendant, received large doses of hyoscine every hour by hypodermic injection.

The only noteworthy symptoms were the rapid development of the effects which are so characteristic of all the so-called belladonna series. The pupils became widely dilated, the tongue exceedingly dry, and the patient's condition that of a mild, wandering delirium, accompanied by a certain amount of carphologia and visions of various objects in different portions of the room. These objects, as a rule, were not disagreeable in their character, although on one or two occasions delusions of persecution developed. In this particular case the large doses of hyoscine were continued for a period of over two weeks and then were gradually decreased. At no time were the symptoms which he developed really alarming, although the apathetic condition at one time seemed to demand careful consideration. Now, several months after treatment, the man is not only not taking morphine, but seems to be improving in every way and has gained ten or twelve pounds in weight. The second and third patients left, as above mentioned, before a cure was established.

The fourth patient was admitted to the author's service at the Jefferson Medical College Hospital suffering from acute malarial infection, and soon after his admission it was discovered he was a morphine

habitué. Quinine was administered and the chills stopped. After this was done hyoscine was given in massive doses by means of the hypodermic needle and the characteristic symptoms of wandering delirium with some picking of the bedclothes speedily developed, the morphine being stopped at once. The patient's condition remained excellent so far as his heart and respirations were concerned.

It is a noteworthy fact that all the patients subjected to this method of treatment have expressed themselves as feeling well, when asked questions about their own sensations, and had no serious disorder of the heart or other organs. It is also a noteworthy fact that in some of them the dryness of the tongue passed away after the first twenty-four or forty-eight hours, so that they had not suffered at all from this symptom. While as a rule they do not care to take solid food, the author never had any difficulty in getting them to take liquids in adequate quantities, both for the purpose of flushing the kidneys and giving liquid nourishment.

In still another case, a comparatively young woman who for a number of months had taken $\frac{1}{3}$ grn. of morphine hypodermically every three hours, and at least a pint of whisky in each twenty-four hours, was also given very large doses of hyoscine. For a period of three days hyoscine delirium with mental wandering was very marked, and she says that for those three days she had very little recollection of what took place. Within ten days of the beginning of the treatment, no morphine or alcohol at all having been given, the patient while still receiving these massive doses of hyoscine began to pass from under their influence, her tongue became moist, her mind clear and she herself expressed surprise that she no longer had any desire for either morphine or whisky. Twelve days after the treatment began she asked for solid food and on the thirteenth day complained that her appetite was ravenous and that she could not remember when she had had such an insatiable desire for food. During the last four days of these twelve, her mental condition was exceedingly bright and cheerful and she is now progressing rapidly toward what will probably be a permanent cure. In her case morphine had been taken for the relief of nervousness.

Those of us who have seen the suffering of morphine habitués suddenly deprived of the drug cannot fail to be impressed with the extraordinary ease with which morphine can be withdrawn from such patients when they are receiving hyoscine.

¹ *Med. News*, LXXX, No. 23.

ANESTHESIN: A NEW LOCAL ANESTHETIC

Anesthesin, which is chemically para-amido-benzoic-acid ethyl-ester ($C_6H_4.NH_2.COOC_2H_5$) is a white powder, odorless and tasteless, with difficulty soluble in cold water, somewhat more readily in warm water, very easily soluble in alcohol, ether, chloroform, fats, and oils. It is eligible for insufflation. Both chemically and therapeutically it is closely allied to orthoform, but it is claimed that it is much less toxic than the latter. Von Noorden¹ gave the remedy internally in gastric hyperesthesia and in ulcer of the stomach; in the form of tablets or bonbons he gave it in irritating coughs, in dysphagia, and as an insufflation in hyperesthesia of the larynx. In ointment form it proved useful in various forms of pruritus, especially in pruritus vulvæ from diabetes mellitus, in icterus and nephritis, and in the pruritus of peri-anal and scrotal eczema. In the form of suppositories it proved useful in painful hemorrhoids. The dose is as follows: Internally, 5 to 8 grn. twice or three times daily, ten to fifteen minutes before meals. The highest daily dose was 40 grn. The tablets and bonbons, given for cough, etc., contain from $\frac{1}{3}$ to $\frac{2}{3}$ grn. The suppositories contained 3 to 8 grn., the urethral bougies 5 grn.; the strength of the ointment was 10 per cent. For inhalations Dr. Noorden used either a thin tragacanth emulsion (3 per cent.) or a 3-per-cent. solution, the vehicle consisting of 45 parts of absolute alcohol and 55 parts water.

TOXIC DOSES IN THE TREATMENT OF SOME NERVOUS DISORDERS

In this age of therapeutic skepticism it is refreshing to find that there are still some physicians who have an abiding faith in drugs—not in homeopathic doses, either—but in large almost toxic doses. In fact, Dr. Wm. C. Krauss² believes that many of our failures in the treatment of nervous disorders are due to the small, inadequate doses employed. He has often been called in consultation to find that the case had been correctly diagnosed, the proper treatment prescribed, but the patient was either at a standstill or losing ground, simply because minimum dosage was employed instead of maximum. Pushing the same remedies to their full limit, sometimes to the dismay and consternation of the attending physician, would invariably produce results favorable to the patient and prove to be the turning-point in the course of the disease. By toxic dosage the author means enough of any

drug to produce distinct signs of intoxication—in other words, impregnating the system until it begins to rebel. The drugs to which the author has particular reference are: mercury, arsenic, nux vomica, hyoscine, atropine, and nitroglycerin. The dose of corrosive sublimate is given as $\frac{1}{20}$ to $\frac{1}{10}$ grn. These doses are totally inefficient in advanced brain syphilis, gummata, or meningo-encephalitis, and the author has injected as much as 1 or 2 grn. as the daily dose. This quantity may produce toxic symptoms, but the gummata melt away quickly in many cases under this heroic treatment.

The dose of Fowler's solution in chorea is given as 5 to 20 drops. The author gradually increases the dose until the patient is taking 30 to 60 minims three times a day. And the results are not toxic, but abortive. Nux vomica is very useful in neurasthenia, but much better results will be obtained with 30 than with 10 drops t.i.d. The author prescribes nitroglycerin in sciatica in $\frac{1}{100}$ -grn. doses t.i.d., gradually increasing, if necessary, until the patient receives 30 to 50 tablets daily. [If the increase be made gradually, nitroglycerin may be given in much larger doses than those given by the author. Especially may large doses be given in Bright's disease.—Ed. M. A.] Atropine and hyoscine are very useful in the treatment of spasmodic disorders of purely nervous origin, such as the facial ties, spasmodic torticollis, etc. But the drugs are given in too small doses. The author has seen severe cases of chronic torticollis relieved by hourly administration alternately of atropine sulphate, $\frac{1}{100}$ grn., and hyoscine hydrobromate, $\frac{1}{200}$ grn., continued for weeks or even months, without producing any ill effect.

Of course, the author states as a warning, whenever heroic dosage is determined upon, the patient must be watched. Each case being a law unto itself, no guide can be followed, no text-book considered, the patient's tolerance of the agent in question being the only index.

THIOCOL IN BRONCHIAL AND PULMONARY AFFECTIONS

Dr. Saverio Caracciola¹ has used thiocol (or guaiacol-sulphonate of potassium) for the past two years in various bronchial and pulmonary troubles, and speaks in the highest terms of the remedy. He says: "We believe firmly and sincerely that there is no remedy in the universal pharmacopœia which can rival it

¹ *Berl. klin. Woch.*, 1902, No. 17.

² *N. Y. Med. Jour.*, LXXV, No. 14.

¹ *Gazzetta Med. di Roma*.

in the cure of diseases of the bronchial tubes and lungs." He considers it as valuable and certain a remedy as quinine, because, while the latter "cures and protects from malaria, thiocol destroys or modifies the soil on which there might develop a disease much more terrible: namely, it acts as a prophylactic against tuberculosis."

FOUR NEW DRUGS

At the last meeting of the American Therapeutic Society, A. C. Barnes and Hermann Hille presented a paper in which are discussed four new chemical combinations:

(1) Silver vitellin is offered as a substitute for silver nitrate. It is a dark-brown powder, claimed to contain 30 per cent. of silver; is very soluble in water, does not precipitate with sodium chloride or albumin, and possesses a strong penetrating action. As an antigonorrheal it may be used in as high a strength as 5 per cent. It has been used in a number of cases with apparently good results.

(2) A compound claimed to contain 45 per cent. of bismuth, 15 per cent. of iodine, and 3 per cent. of formaldehyde is offered as an ideal dry dressing. Chemically it is claimed to be mono-iodo-dibismuth-methylene-dicresotinate, and is a pink, impalpable powder, odorless, tasteless, and insoluble. On coming in contact with the wound, iodine and formaldehyde are said to be liberated.

(3) The third compound is an organic iron preparation, with the provisional name iron vitellin. It is a red powder, freely and completely soluble in water, forming a clear-red solution, neutral in reaction, odorless and tasteless.

(4) The fourth compound is offered as an intestinal astringent and antiseptic. It is chemically a hexamethylenetetramine-tannin proteid, and is claimed to contain 50 per cent. of tannic acid and 10 per cent. of hexamethylene-tetramine (formin) in definite chemical combination. The authors claim for it that the tannic acid is liberated only when the drug reaches the intestine. Physically, it is a yellowish brown, fine powder, odorless and tasteless. Dose: about 15 grn.

ATOXYL—A NEW ORGANIC ARSENIC PREPARATION

Dr. Walther Schild,¹ reports on a new arsenical preparation, atoxyl (chemically, meta-arsenous-acidanalide), containing 37.6 per cent. of metallic arsenic. It appears in the form of a white, odorless powder, of feebly salty taste, dissolving in water up to about 20 per cent. On standing for some

time the aqueous solution acquires a faint yellow tint, although decomposition does not take place; neither is this effected by boiling. Experiments on animals showed that the preparation was forty times less toxic than would be expected from the amount of arsenous acid it contains. In human beings administration of even small amounts by the mouth caused impairment of appetite, so that resort was had to subcutaneous injections. It was found that single doses representing 6 grn. of the drug and also repeated doses of from 3 to 5 grn. caused unpleasant effects, such as chilliness, vertigo, headache, irritability of the throat, but these subsided soon after withdrawal of the drug. Marked cardiac disease constitutes a contra-indication to the use of the preparation, inasmuch as it gives rise to palpitation of the heart and dyspnea even when administered in small doses. In the clinical employment of the preparation a 20-per-cent. solution was used, and of this from 3 ($\frac{3}{4}$ grn.) to 15 minims (3 grn.) were administered. The first five injections were given on successive days, and the remainder on alternate days. Seventy-five patients were thus subjected to treatment, receiving about 1500 injections without any ill-effects. Among the disorders treated were alopecia areata, dermatitis herpetiformis, cutaneous sarcomatosis, dermatitis exfoliativa chronica, xanthoma multiplex diabeticum, psoriasis, lichen ruber. In some cases local applications were made at the same time. The results were entirely satisfactory, the drug being well borne and free from irritation and injurious effects.

THE TREATMENT OF CROUP

The management of croup is one of the most trying problems that beset the physician, and one of the most ungrateful. Dr. Leopold Bayer¹ recommends a method which he has tested for four years with uniform success, having treated and brilliantly cured twenty cases of true croup. He employs calomel and apomorphine, according to the following formulæ:

Calomel..... 3 grn.
Sugar..... $\frac{1}{2}$ dram

Make eight powders. One powder every two hours.

Apomorphine Hydrochlorate... $\frac{1}{10}$ grn.
Distilled Water... $3\frac{1}{2}$ oz.
Dilute Hydrochloric Acid... 2 drops.
Syrup..... 2 dr.

Teaspoonful to dessertspoonful every two hours.

The two remedies are given alternately, so that the patient gets calomel one hour

¹ *Berl. klin. Woch.*, XXXIX, No. 13.

¹ *Therap. Monatsh.*, XVI, No. 4.

and apomorphine the next. For children under two years, the dose of calomel is reduced to about $\frac{1}{6}$ grn. Both prescriptions may be repeated, and in the author's cases more than two repetitions were never required. The calomel should be partially discontinued as soon as amelioration is noted, lest untoward results appear. The apomorphine may be continued longer. The sooner this treatment is begun, the better. But even commenced on the second and third day of the disease, it offers good chances of recovery. After twelve hours of medication an improvement is generally noticeable in the easier breathing. The stenotic phenomena gradually give way to normal respirations.

OINTMENT FOR THE TREATMENT OF BLEPHARITIS

Dr. Ráimondo Ferro¹ has experimented during the past three years with a number of remedies in the treatment of blepharitis. Local applications of solutions of iodine and potassium iodide, of silver nitrate and of pyoktanin he considers of no particular value. The following ointment he used with remarkable success:

Copper Sulphate.
Ichthyol, of each.....8 grn.
White Vaseline.....1 oz.

Its use did not affect the cornea or the conjunctiva, and so uniform were the results that the author is convinced the ointment might be considered a specific in blepharitis. He recommends it in all forms of the affection as preferable to any other application that has ever been used. The ichthyol, the author says, acts as an antiseptic and a stimulant, while the copper sulphate exerts astringent properties, reducing the congested sebaceous glands of the eyelids.

SATURATION WITH MERCURY NO GUARD AGAINST INFECTION

Prof. A. Robin² reports two cases which conclusively establish that saturation of the organism with mercurial compounds does not prevent contagion from the typhoid bacillus and the pneumococcus, and does not attenuate their virulence. It even seemed to be responsible for the extreme severity of the infection in both cases. The patients were healthy young women with recent syphilis. One took 12 grn. of mercury in fifteen days, including $\frac{2}{3}$ grn. of the benzoate in subcutaneous injections. 6 grn. of the bichloride in pills, and the balance in metallic mercury, also in pills. There

were three cases of typhoid fever in the same ward, and this intense mercurial treatment did not prevent infection. It assumed a grave form from the first, and gangrenous phlyctenæ and phlegmasia alba dolens developed the nineteenth day, with death two days later. The other case was a similarly virulent broncho-pneumonia.

BROMIDE ERUPTION

Dr. T. F. Wallhauser¹ reports (with illustrations) two very severe cases of eruption following the use of the bromides. The first case was in a girl of fifteen, who was somewhat melancholy and hysterical. Potassium bromide in 10-grn. doses was given every three hours. The eruption, located on both lower extremities, appeared about the third week of treatment. The second case, a woman of thirty-six, had been epileptic for several years. She was taking a proprietary remedy [containing bromide] and the eruption appeared about one year after beginning this treatment. The lesion was on the lower extremity, below the knee, involving almost the entire circumference and extremely painful. Treatment consisted in keeping the lesions bathed in carron oil (a mixture of equal parts of linseed oil and lime-water), applied on sheet lint. The first case recovered in seven weeks, the second in ten weeks after bromide was discontinued.

ICHTHYOL IN CHRONIC BRONCHITIS IN CHILDREN

Encouraged by the favorable reports on the use of ichthyol in tuberculosis, grip, etc., Dr. Walter B. Jennings² began to use the drug in the common form of bronchitis in children which so often follows measles, whooping-cough, and acute infectious diseases in general. He gives the histories of eight cases demonstrating the good effects of ichthyol in the above-named conditions. It was administered in the following combination:

Ichthyol.....gr. xxxii
Glycerin,
Spt. Aurantii, aa.....3 ss
Aquæ, ad.....3 ij

The author gives the following conclusions: (1) The first dose often causes nausea, vomiting, but later the child grows inured to the taste of ichthyol. (2) Children under one year of age do not take ichthyol well. (3) To avoid the unpleasant effects of ichthyol it should be given after meals. (4) Increasing doses are not necessary for good results in children.

¹ Gazz. d. Ospedali, March 2, 1902.

² Jour. Amer. Med. Assoc.

¹ Jour. Cut. and Gen.-Urin. Dis., No. 236.

² St. Louis Med. and Surg. Jour.

MERCK'S ARCHIVES

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JULY, 1902

EDITOR'S NOTES

Does Methylene Blue Possess a Tendency to Produce Abortion?

DR. Y. VADO JOHNSON, of Vera Cruz, Mexico, reports in the *Medical World* three cases which, while not conclusive, are at least suggestive. The first case was a bipara in the sixth month of pregnancy, who had never had an abortion. Had been ill with bilious malarial fever for five days; took quinine and antipyrine on the third day; no drugs on the fourth day. At mid-day on the fifth day began taking methylene blue, 1½ grn. every two hours. After taking the fourth capsule, strong pains commenced, and in spite of treatment premature labor began, and a child was born three hours later, which lived for half an hour. Recovery of the mother was uneventful, temperature becoming normal on the seventh day of the disease. The second case was a multipara, aged twenty, six and one-half months pregnant. Suffering with bilious malarial fever for two days. Temperature, 104° F. No quinine or other drugs had been given. Began taking methylene blue in 1-grn. capsules every two hours. After taking six or eight capsules labor pains suddenly appeared, and in an hour patient was delivered of a child, which died a few moments afterward. Mother made uneventful recovery. The third case was a primipara, aged thirty, pregnant three months. Had been ill for several days with bilious malarial fever, and had been treated homeopathically. After taking 2

grn. of methylene blue strong pains began. The drug was stopped and under appropriate treatment the patient recovered, both from the fever and the threatened abortion. All the women claimed that the pains began after taking the drug and were not present before.

We were very much interested in the subject, and started on a search in the periodic literature to see if we could find any other reference to the supposed abortifacient properties of methylene blue. We could find only one such reference. In the *Gaz. degli Ospedali* (March 16-23, 1902) Dr. A. de Blusi records his results of the treatment of 100 cases of malaria with methylene blue. He obtained 62 cures (his doses ranged from 3 to 30 grn. in twenty-four hours) and recommends the drug highly, but warns the profession against administering the drug to pregnant women.

The presumed abortifacient property of methylene blue is very interesting both from a physiologic and a practically-therapeutic point of view, and we should be exceedingly pleased to hear from our readers who have used the drug, either contradicting or corroborating the experiences of Dr. Johnson and Dr. de Blusi.

* * *

Will We Soon Be Obligated to Discard Heredity as a Factor in Tuberculosis?

In one of our editorialettes in the February ARCHIVES we reported the results of an investigation by a Russian physician, E. E. Miller, tending to show that hereditary transmission of tuberculosis, or even hereditary predisposition to it, was a medical myth. In 71 successive cases treated by him during a period of four years only 11 (15.5 per cent.) gave a history of tuberculosis in one or both parents. We are now able to present to the consideration of our readers a wider and more important investigation. In a certain life assurance society (Scottish Widows' Fund, etc.) there were 524 deaths from tuberculosis in the period from 1874 to 1894. Dr. Claud Muirhead (*Edinb. Med. Jour.*, June, 1902) took to himself the task of investigating into the family history of those cases and for comparison's sake he did the same thing with 502 cases of death from apoplexy. Among the "consumptives" it was found that parents were admittedly tuberculous in 8.39 per cent. of cases, but this percentage was increased to 15.26, if those cases were added in which subsequent inquiry afforded good grounds for the suspicion of the tuberculous taint in one or other of the parents. If, further, the existence of tuberculosis among sisters or brothers is taken into account,

then the total number with a history of family taint was 182, or 34.72 per cent.

On contrasting the family history of the "non-consumptives"—i. e., those who died from apoplexy—with the above, the following figures were obtained: Parents admittedly tuberculous, 7.37 per cent., increased to 13.15 per cent. by parents possibly consumptive; while, on adding those with tuberculosis among brothers or sisters, the total percentage with a history of family taint, acknowledged or probable, was 47.21. In other words, there was actually a larger percentage of members with consumptive relatives among those *who actually died of apoplexy than among those who ultimately died of phthisis*. The logical conclusion, Dr. Muirhead says, in summing up his consideration of the whole question of hereditary predisposition in relation to phthisis, is, that in the adjudication of a proposal with a family history of phthisis, while we cannot discard from our minds such history as a predisposing cause of the disease, we must attach much less importance to it than has been the practice in former days. Those who have reviewed the literature on the subject, and have had a wide personal experience, will probably agree with Dr. Muirhead.

* *

Metallic Mercury in Intestinal Obstruction

THE method of treating intestinal obstruction with large amounts of metallic mercury— $\frac{1}{2}$ to 3 lbs. at a dose—is a very old one. It is now obsolete, and the physician who would now try this method would probably be looked at askance. One of those ignoramuses whose special mission seems to be the ridiculing and blackguarding of the medical profession recently took this method up as a text to dilate on the stupidity and brutality of medical science. Nevertheless our ancestral practitioners were not altogether so ignorant and stupid as some painfully recent graduates are apt to think. The method was successful in probably a large majority of cases, and very recently a physician, Dr. J. McKean Harrison, reported two cases of acute intestinal obstruction relieved by mercury. The first patient was a man of sixty: his bowels had not moved for nine days, the abdomen was greatly distended, there was vomiting, hiccough, etc. His friends refused an operation, though the condition was most serious. Half a pound of mercury was administered; next morning he felt easier and was able to retain liquid nourishment. On the following day his bowels moved and he, of course, felt much better. On the seventh day after the ad-

ministration of the mercury the patient was able to leave the bed; the mercury came away on the tenth day. The second patient was a man of eighty, who was taken suddenly ill with great pain in the epigastric region. Aperients, belladonna, etc., failed to produce the desired effect, and the patient was getting worse. Finally, when the condition seemed hopeless, the patient apparently sinking, half a pound of mercury was administered and a grain of opium every four hours. Several hours after the administration of the metal the patient's bowels moved and he passed a good deal of flatus. He soon became distinctly better, his mind was clearer, and he was able to keep down nourishment. He made a satisfactory recovery. The mercury came away twelve days after administration. As is seen, there is something in the method after all. In neither of the cases was there the slightest symptom of mercurialism nor did the mercury produce any increase in the abdominal pain.

* *

Is Tobacco Beneficial?

So much abuse is being heaped upon the head of Lady Nicotine that one would certainly be guilty of a lack of chivalry if he failed to register the good word that is occasionally said in her behalf. Dr. Dumon claims in a thesis that tobacco is of great use to medical men and those who come in contact with cases of diphtheria, tuberculosis, and influenza. He has studied the action of tobacco-smoke upon various organisms found in the mouth, and has come to the conclusion that it greatly retards the development of the germs of the above-mentioned diseases. It has no effect upon the development of the germs of typhoid fever and tetanus. The experiments were made with definite cultures, and Dr. Dumon asserts with positiveness, that the vapors of nicotine and pyridine, which are produced by burning tobacco, do render the mouth more or less aseptic. The same observation has been made by dentists.

* *

Grains of Wisdom

THE morality of clean blood ought to be one of the first lessons taught us by our pastors and masters. The physical is the substratum of the spiritual, and this fact ought to give the food we eat and the air we breathe a transcendental significance. In recommending this proper care of the physical organism, it will not be supposed that I mean the stuffing or pampering of the body. The shortening of the supplies or a good monkish fast at intervals is often the best discipline for it.—Tyndall.

The Meetings of the American Medical Association

The doctor who does not attend the meetings of the American Medical Association does not know what a grand thing he misses. The benefit cannot be figured out in dollars and cents; but the broadening of the intellect that comes from association with the best men of the profession from all parts of the country, the *esprit de corps* which can develop only from attendance at such meetings, the knowledge which one gains from listening to the papers and to the discussions, the acquaintances one makes, the social features and entertainments, the freedom from care and worry for a few days and the change from the humdrum life of the average practitioner—all these factors are infinitely superior to dollars and cents, because they make the man a better physician and the physician a better man. We advise any physician, to whom it is at all possible, to make the most strenuous effort to attend the meetings of the American Medical Association—the association which is truly representative of the medical profession of the United States.

The Saratoga Meeting

The meeting that just closed at Saratoga was a grand success from every point of view. Nature seemed to do her best to make the meeting a delightful memory. The air was cool and bracing, an abundance of verdure lent its charms, the accommodations were excellent, the section meetings and the exhibits were within a very short distance of each other, the members were overflowing with good feeling, the papers read were *mostly* of a high character (or, at least, of good quality), the discussions were interesting—in short, when Friday came around and the people saw that the end was near they all felt as if they were waking from a delightful, iridescent dream. And on parting the people freely expressed their hopes and desires that the next meeting, at New Orleans, might prove equally delightful and equally successful.

The Pathologic Exhibit

The pathologic exhibit was very instructive. One could see with what avidity many elderly and middle-aged physicians, who apparently had not had the advantages of a course in pathology in their college days, studied the various specimens. It was to them like a liberal education in histology, pathology, and bacteriology. While the number of exhibits was not, perhaps, as large as it might have been, they were all

of a high character. Especial mention might be bestowed upon the following exhibits: The dermatologic wax models of Jay F. Shamberg; the exhibit of the N. Y. Hospital for the Ruptured and Crippled; of the University and Bellevue Hospital Medical College; of the Cincinnati Hospital; the exhibits of appendices, by Dr. R. Abbe of New York, and Dr. H. C. Emerson of Springfield, Mass.; of gall-stones, by Dr. Evans of La Crosse, Wis.; and the exhibits of the Pediatrics Laboratory of New York (257 W. Fifty-fourth street), of the Boston University School of Medicine, and of the Milwaukee Medical College.

We often thought it would be a good idea to take a Christian scientist, or some other believer in the non-reality of disease, through such a pathologic museum. Perhaps seeing with their own eyes numerous horrible specimens of disease and deformity, tumors weighing fifty or sixty pounds, gummata of the brain, ankylosis of the vertebræ, immense renal, vesical and biliary calculi, consolidated and cavernous lungs, colonies of bacilli on various media, and the same bacilli in the blood and tissues of human beings—perhaps, we say, an examination of such an exhibit would throw a ray of light into the befogged and beclouded mind of those deluded victims of ignorance and of superstition, and make them see that disease is real, disease is earnest, and not the result of a mere belief.

A Lesson for the Section of Materia Medica and Therapeutics

Of the five sessions held by the Section of Materia Medica and Therapeutics, three were very well attended; in two the attendance was exceedingly poor. In looking for the cause we will find it in the character of the papers read at those sessions. Not that the papers at the poorly attended sessions were valueless or non-scientific; on the contrary, they were of a scientific character and contained a good deal of information. But they were not practical—they were of a technical nature; they treated of physiology and chemistry, and these are subjects in which the general practitioner is not much interested. At any rate, he does not consider them proper subjects for society papers; he thinks, and with right, that he can get information on those subjects to better advantage from textbooks and periodical literature. To listen to a lot of technical details and figures giving the percentage composition of various reagents is neither interesting nor profitable, because it leaves no impression on the memory. We noticed evidence of great

impatience on the faces of practically all the listeners, and several left during the reading of the papers. If we are to learn from the past how to conduct ourselves in the future, if we wish to have our sessions well attended, then let us in the name of common sense avoid technical papers. Let us get papers which are full of practical points, which treat of true therapeutics, which are likely to elicit a lively discussion—and then the chairman will have no occasion to complain of slim attendance.

As to the Character of the Papers Read

We said above that the papers read were mostly of a high character. Yes, most of the papers were; but some of the papers were distinctly not; some were of a character to fit them for some local society in Oklahoma or Arizona, but not for the representative association of America. Some of the papers that we had to read in our capacity of censor we found to consist of transcripts from standard text-books and periodical literature. Now, this is not as it should be. One who comes to read a paper before the association should really have something to say. One who has nothing to say should keep quiet. And the "censorship" committee, within whose province it falls to recommend the papers for publication in the *Journal of the A. M. A.*, should be fully imbued with the importance of its duties. It is disagreeable to reject a paper, especially if the reader happens to be a personal friend, but a duty must be performed whether disagreeable or not. *Amicus Plato, amicus Socrates, sed magis amica veritas.*

Minor Items

As the surgeons held the presidency of the association for a number of years, general satisfaction is expressed that at last the honor has fallen to a general practitioner. Frank S. Billings, of Chicago, is a good man. We are sure that his oration in medicine, which we print in full in this issue, will receive proper attention at the hands of the readers of the ARCHIVES.

* * *

The House of Delegates proved a tremendous success in expediting all business matters of the association, and we fully agree with the generally expressed opinion that it will prove one of the most potent factors in uniting and elevating the entire medical profession of the United States. Let us see to it that none but capable and worthy men—they must possess both qualifications—get into this House of Delegates.

It has become an unwritten law in the A. M. A. that any electioneering, in any shape or form, by a candidate or his friends, effectually debars that man from being nominated or elected. We know of no more salutary rule—a rule that will definitely kill all attempts at political wire-pulling and thus truly elevate the association and with it the entire profession. Let the nominations be, so-to-say, spontaneous, and let the best men get the offices.

Personal Mention

Dr. Solomon Solis Cohen always has something to say, and whatever he says he says well.

* * *

Dr. Horatio C. Wood, Jr., is as bright as a new dollar. A bright future lies before him. He is very young-looking, but we are certain this is a fault he will outgrow.

* * *

Dr. Arthur A. Stevens' paper on "The Drug Treatment of Pneumonia" was one of the best papers read in the Section of Materia Medica and Therapeutics. It was free from extravagances and fads, and characterized throughout by common sense.

* * *

Dr. Smith Ely Jelliffe's paper on "Hypnotics, Analgesics, and Resultant Drug Addictions" was full of interesting and suggestive points, and elicited the most lively discussion. All who participated in the debate were in hearty accord with the reader of the paper.

* * *

The efficient secretary of the Section of Materia Medica and Therapeutics, Prof. Carl S. N. Hallberg, read two interesting papers: "The External Preparations and Their Therapy" and "Dosage of Liquid Medicines: a Simple Plan for Greater Accuracy and Metric Measures."

* * *

To be in the immediate presence of Prof. Egbert Le Fevre, the genial secretary of the University and Bellevue Hospital Medical College, was like basking in the rays of the sun. He had a good-natured smile and a hearty hand-shake for everybody.

* * *

The paper of Dr. W. Freudenthal, the well-known rhino-laryngologist of this city, on "The Treatment of Adenoids," was well received and elicited very favorable comment.

* * *

Dr. F. M. Jeffries, who presided at the pathologic exhibit, seemed to be the right man at the right place. He was always at his post imparting desired information and answering the numerous queries of the interested visitors.

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

"Alkaloidal" Therapy

Dr. B. G. D. writes: I wish you would publish something in the ARCHIVES concerning the alkaloids—i. e., what is known as alkalometry. One sees a good deal about it; there too frequently seems a commercial bias to it. The claims appear rational, but I do not know anything of the facts. I believe a large percentage of your readers would appreciate a fair and full discussion of alkaloidal as compared with other pharmaceutical preparations, and practical results in treatment. If one reads the alkaloidal literature he is told that all else is archaic and inferior; if he reads twentieth-century text-books he does not find alkaloidal treatment so exclusively the only thing. I have never seen an unbiased discussion of the subject, though no doubt there are plenty of them. Have been practicing less than three years. Take *Journal Am. Med. Assoc., American Medicine*, and MERCK'S ARCHIVES. Should you find this suggestion consistent with your duties, I will be pleased to see your article at an early date.

We cannot enter into a detailed discussion of the subject, but we will state our opinion briefly. Alkaloidal therapy is rational and is established upon a firm basis. In a great majority of cases the active principles, which represent practically the entire virtue of the drug, have been isolated, and can therefore be used with advantage instead of the crude drug or its galenical preparations. The advantages of active principles consist in absolute uniformity, smallness and accuracy of dose, ease and convenience of administration, and tastelessness, as the active principles are generally given in granule form. But we must not forget that some drugs contain principles which have not yet been isolated; or, if some principles have been isolated, they do not represent the entire virtue of the drug. In the first case we, of course, must administer the drug itself, and that in the most eligible form; in the second case, we are confronted with two different problems. As an example, we may take ergot and digitalis. Several principles have been isolated from ergot, but none represent the full virtues of the drug, and we are therefore obliged to use either the fluid extract or the extract—ergotin Bonjean. In digitalis, digitalin is only one of the principles, but it is the most important one, and the fact that it does not represent all the properties of the drug is considered a great advantage, because the cumulative and otherwise toxic effects of digitalis are supposed to reside in

the other principles of digitalis. So that in administering digitalin we utilize all or most of the good properties of digitalis without the disadvantages of the latter.

And so, then: some drugs have had all their active principles isolated; in such cases the administration of the active principles is fully justifiable. Some drugs have had their chief principles isolated; in such cases there is a difference of opinion—some physicians claim best results from the principles, others from the whole drug. Other drugs have not had their principles isolated, and in such cases recourse must be had to the crude drug or its galenical preparations.

Hypochlorization in Epilepsy

Dr. G. B. asks us to explain in detail the Toulouse and Richet method of treating epilepsy.

The Toulouse-Richet method is simply hypochlorization; that is, the reducing of the amount of sodium chloride taken in the diet to a minimum. By depriving the patient of sodium chloride, the bromides are more rapidly and more fully absorbed and exert more intense therapeutic action. There is a bromide bread in the German market in which sodium bromide is used instead of sodium chloride.

Vapo-Cresolene

Dr. G. T. MacC. writes: At times I find patients using a vapo-cresolene inhaler and apparently with good results. What is the liquid cresolene composed of? It appears to be coal-tar cresote. An answer in Queries and Answers department of the ARCHIVES would be much appreciated.

Hager and other authorities say that the liquid cresolene is carbolic acid, colored red. Some claim that it is ordinary cresylic acid.

Methylene Blue and Methyl Alcohol

J. H. M. writes: I would like to ask if the use of methylene blue (medicinal) is open to any of the dangers or objections, even in a small way, that attend methyl alcohol, where the latter is used to heat bath cabinets, or is otherwise inhaled or absorbed?

Methylene blue and methyl alcohol have absolutely nothing in common. They are entirely different bodies, both chemically and therapeutically.

Removal of Tattoo Marks

Dr. W. G. W. asks for some remedy to remove tattoo marks.

The only two substances that we have seen recommended for the removal of tattoo marks are hydrogen peroxide and papain. Both are injected directly into the mark. We have, however, had no personal experience with either of the substances and cannot, therefore, say how efficient they are.

Correspondence

Criticism of Dr. Hubbard's Paper on Typhoid Fever

Editor MERCK'S ARCHIVES:

Since you ask for criticisms on the very interesting paper on typhoid fever published in your May number, by Dr. Hubbard, I should like to call attention to one or two points. Dr. Hubbard's paper is written in such a readable style that it is bound to attract attention, and it is, therefore, all the more regrettable that he has allowed not only one or two mistakes of logic, but also incorrect ideas of the action of drugs to creep into it.

In the first place, he advises us to use the intestine as a "sewer to drain from the system toxins," but sewers, as far as my knowledge goes, do not draw any more readily for being clogged up with masses of antiseptics; and it is, therefore, an extremely happy analogy to favor the use of this method of treatment of typhoid fever. Again, he criticises Dr. Osler for inconsistency in recommending urinary antiseptics and condemning the intestinal antiseptics, and asks the question why it is not just as possible to disinfect the blood or any tissue as the urine. He seems to forget that all those drugs which are eliminated through the kidneys, on account of the small volume of urine, compared to the volume of blood, are in a very much more concentrated solution in the kidney or bladder than in the general body. This fact is very clearly shown by the irritation of the genito-urinary tract which occurs after the administration of comparatively small doses of irritant substances like cantharides.

A similar mistake is made when he says that because mercury is capable of being absorbed and carried to any part of the body, it is therefore capable of acting as a disinfectant to all portions of the body. It is common knowledge that dilute solutions of any antiseptic, mercury included, have no effect upon micro-organisms. It takes a more concentrated solution of mercury to kill a bacterium than it does to kill a man.

This is true apparently of all antiseptics as yet discovered, and despite the clinical experience of Dr. Hubbard in thirty-five cases of typhoid fever, the concomitant opinions of Dr. Osler and the majority of the profession in some thousands of cases lead me still to believe that the disinfection of the general body may perhaps be possible in the millennium, but not before.

Philadelphia, Pa. HORATIO C. WOOD, JR., M.D.

Comments on Dr. Thayer's Paper on Treatment of Typhoid Fever

The article on the above subject which appeared in the May ARCHIVES is certainly to be commended, but the treatment is open to criticism. That there is no specific against typhoid fever none will deny, yet it does not stand to reason that the protective body cells should not be helped by drugs to fight the battle royal for life, to counteract the toxins of the disease. If it were not for the work of the defensive cells of the body there would be neither expectant nor antiseptic treatment; death would close the scene in every case.

The symptoms of disease of microbial origin are due to absorption of poisonous substances from the area of infection. These poisons may be formed from the tissues by the action of bacteria, or may be set free from the bodies of decaying microbes. Microbic albumoses are formed by the

action of microbial ferments upon the area of infection (Da Costa). If the albumoses of digestion be injected into the circulation they are poisonous, and if it were not for the selective action of absorbents of the alimentary tract we should die of auto-intoxication. In disease the power of the absorbents is impaired and albumoses of both digestive and microbial origin are absorbed. The point of absorption in disease is the affected area largely.

"Toxins are alkaloids generated by the microbe causing any microbial disease; thus, in typhoid fever it is the alkaloid typhotoxin" (Da Costa).

Treatment.—With regard to the intestinal antiseptic treatment, the main reasons which seem to render attempts in this direction advisable are:

(1) Intestinal antiseptics is rational. In the first stage of the disease the bacilli are found largely at the seat of infection.

(2) To make the alimentary tract as aseptic in typhoid fever as in health is possible.

(3) The evidence that intestinal antiseptics is efficient is shown by the fall in fever.

The lesions are found in the Peyerian patches and solitary glands. The bacilli set up active inflammation in these glands. Vast numbers of leucocytes surround the inflamed glands in an attempt to wall off the offending bacilli; if they could succeed at once the disease would be aborted, just as well as to settle down to a six weeks' siege. The bacilli begin operations in the glands of the gut and not in the blood. The toxins are at first generated in small amount, which is shown by the gradual rise of temperature.

The products of food in the intestines, as well as the alkaloidal compounds formed by microbial action, will be retained and absorbed. It is irrational to think of sloughs remaining locked up in the gut for any time without becoming a veritable hot-bed of putrefactive alkaloids. The ulcers, to heal as kindly as may be, should have all septic material removed as nearly as possible. In treating ulcers in other accessible locations, the teaching is to septicize and drain. Why not use the best means at command in ulcers of the Peyerian patches?

Clean out and clean up is the first step in any case of typhoid fever. Both may be done by calomel, followed by sulpho-carbolate of zinc, if there is diarrhea; if not, sulpho-carbolate of soda. These are the best, though bismuth subnitrate—thymol, etc., may be used. The stools lose their offensive odor, the fever lessens, the patient is brighter, and the skin is moist and pliable. Cases that are seen late may be given, for fever, aconite, digitalin, and strychnine arsenate, every one or two hours. Another valuable remedy for fever is a sheet dipped in ice-water, wrung, doubled, and placed on the bowels, covered with a woollen blanket, a cold cloth having been previously placed on the head. Nuclein, 10 to 12 or 20 drops every twelve hours, is also useful.

Move the bowels once every twenty-four hours, which is best done by small doses of calomel followed by small dose of some effervescent saline in the morning. Since the fever is remittent, small doses of quinine arsenate should be given frequently from the beginning.

The diet should usually be liquid and as nutritious as possible. Milk is hardly permissible since it serves as a medium for the bacilli; besides, the curds are objectionable.

The disease treated in this way is rather a mild and not a serious one. Delirium hardly ever occurs; the convalescence is shorter and more rapid than by the expectant plan.

Lafayette, Ind.

F. M. JEFFERS, M.D.

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

Antidote Against Corrosive Sublimate.—(From the *Lancet*, May 15, 1824.) It was stated some time ago that M. Saddei had detected in gluten the property of decomposing the deutochlorate of mercury. An Italian journal records the efficacy of this antidote. A medical pupil swallowed seven grains of corrosive sublimate, believing it to be calomel. The effects of the poison soon manifested themselves. The emulsive power of gluten was administered according to the method suggested by M. Saddei; the sublimate was decomposed, and evacuated by vomiting.—*Lancet*.

Woorara. (From the *Lancet*, May 15, 1824.)—M. Vircy has an article in the *Journal de Pharmacie*, on the poison called woorara. It is probable that few persons are acquainted with it in France; it is, however, much employed in America where the savages of the Guiana arm the points of their arrows with it. The monkeys, and other animals wounded by these poisoned arrows, fall into violent convulsions, which shows that the poison acts principally on the nervous system; nevertheless, the savages eat it without being incommoded by it. It is not known from what vegetables the woorara is extracted; Barcroft and other travelers say that it is taken from a plant of the climbing species; M. Vircy thinks it not impossible that the poisonous juice of the cerbera may be used in it. What is more of importance, however, is a remark which has been for some time made, namely that the plants cultivated in gardens for the purpose of medicine, have undergone a sensible diminution in the strength of their properties. This circumstance should induce us to procure them in their wild state whenever we can do so, for they grow in soils less rich, less sheltered, and less likely to fill them with inert juices. An instance of this kind has been observed in the hyoscyamus niger by M. Ricken, Chemist at Wittand. This plant cultivated gives an extract almost inert, while in its wild state it gives a much stronger extract. This is a very material circumstance in the practice of medicine, and may account for a number of anomalies and discrepancies in the results obtained by different practitioners.—*Lancet*.

The Stimulus of Sunlight.—The effect of sunlight on population has been studied by M. Lugeon in the Canton Valais, Switzerland, and a brief statement of his results is given in *Science*. He finds that in the principal valley of the canton, between Martigny and the Rhone glacier, there is a marked difference in the populousness of the two sides of the valley; that most exposed to the sun having decidedly the largest population, and this does not appear to altogether depend upon the physical conformation, but he is inclined to attribute it mostly to the different exposure to sunlight. With one or two exceptions all the villages are on the sunny side of the valley and the dwellers on that side form a sort of aristocracy, being more prosperous and better educated and look with some contempt on their poorer neighbors on the shady side. In one village there are actual caste differences corresponding to the difference of exposure to sunlight of the dwellings. Of course, this may be largely a matter of volun-

tary selection; the abstract is not complete as regards possible physical differences in the people, but the publication of the study is suggestive from a medical as well as from a sociologic point of view.—*Jour. A. M. A.*

Medical Etiquette.—The obligation which lies upon all medical practitioners not to divulge matters which have come to their knowledge in their professional capacity leads to many curious problems in regard to which it is easy to go astray if we may judge by the answers which every now and again appear in the columns of our contemporaries. The latest conundrum of the sort which we have come across touches on the question whether when a patient puts himself under the care of a new doctor the latter can demand from the former attendant information as to the treatment which he has pursued in the case. Surely it is obvious that he has no right to do anything of the sort. It seems, however, not to have occurred to some people that not only has Dr. B. no right to demand this information but that Dr. A. has no right to give it. It has been suggested by high authority that, although this information could not be demanded, it would be perfectly proper to ask for it, and that such information would in most instances be courteously supplied, all of which shows how easy it is to be drawn into backsliding if the temptation be put in such a form that obedience to one rule shall seem to involve disobedience to another. "Be ye courteous one to another" is not in the Bible, but it is a very good rule. Still we have no right, even on the plea of courtesy, to break the still higher obligation not to reveal matters which have come to us in our professional capacity—even to a "brother chip."—*The Hospital*.

A Bowel Boom on the Medical Exchange.—Given that the values attached by medical men to the causes and nature of different diseases represent, on the medical market, the equivalent of stocks and shares on the regular Stock Exchange, very similar fluctuations in the prices current from time to time may be said to be exhibited by the former. On the Medical Exchange this stock or that constantly varies in worth, is constantly rising or falling in the estimation of the medical brokers (*i. e.*, experts), and consequently also in that of the medical investors (*i. e.*, practitioners). Vcnesection, for example, at one time was valued far above its real worth; invested in, and believed incapable of depreciating, is now a drug on the market, and really under its proper level. Look again at violent catharsis, confidently appraised some years ago at a ridiculously high price, now seldom quoted.

Only a score of years ago the business done in the Digestive Circus or the Medical Market, to borrow another metaphor from the Exchange, was almost entirely devoted to transactions in gastric and hepatic securities. Maldigestion stocks as a group were only dealt in when the stomach and liver were involved. To-day, and in recent years the position of gastric stock has fallen decidedly, partly from competition and appreciation of rival interests, the importance of which has only lately been recognized. The most vigorous of these new rivals have to do with the bowel, and have gained in credit as prominent a part as played by the stomach formerly in the affairs of maldigestion. Witness the recent publications of Boas, Einhorn, and Ewald, devoted to the discussion and illustration of intestinal diseases; Herz's elaborate work on the various conditions and complications associated with digestive disease;

the colossal work of Hemmeter on the diseases of the intestine, published but a few weeks ago. Why! the doctors of 1880 knew nothing of appendicitis, had never heard of intestinal dyspepsia, excessive intestinal fermentation, or of auto-toxemia—even knew not of colitis, far less of its several varieties. To revert to the metaphor of the Stock Exchange, twenty years ago stomachs were, bowels are, in favor; the operators who then influenced the stocks connected with the Bourse of Medicine conspired to bull gastric securities, the trusting medical investing public following their lead; now the leading operators in the Digestive Market have succeeded in developing a movement in favor of bowel scrip, leading to a boom in bowels and bowel interests, a slump in gastric interests.

This change in valuation, however, is by no means to be deplored. It signifies the onward progress of rational medical methods and opinions, from the long-cherished habit and custom of judging from signs and symptoms apparent exteriorly, and empirically allotted to some particular organ, toward search for, and recognition of, the primary cause of symptoms of disease, and treatment of the symptoms by removal of their source of origin.—*Edinb. Med. Jour.*

The Statistics of One Hundred Cases of Abortion.—Since the day of Hippocrates, who was one of the first to express this view, some obstetric writers have been accustomed to regard an abortion as more dangerous to the mother than a full-term delivery. That the danger of such an accident, if it be properly treated, is not so great as is often supposed is shown by Dr. Blondel in a paper read before the Obstetrical Society of Paris. In this paper he records the results of 100 cases of abortion, without a single fatal case, which had occurred in his private practice during a period of 12 years. The exact mortality of cases of spontaneous abortion is difficult to ascertain, but it is probably less than that of full-term confinements. Even the mortality following abortion criminally procured is really quite small, and it seems certain that Tardieu, who met with 60 deaths amongst 116 cases, had quite an exceptional experience. Brouardel, for instance, mentions 72 cases of criminal abortion without a death, and amongst Dr. Blondel's 100 cases 52 were certainly of such a character, and possibly 26 of the remaining cases were of the same kind. The proper treatment of a case in which there is reason to suspect that criminal measures have been used is always a difficult matter to decide in the absence of positive indications for interference, such as evidence of septic intoxication or septic infection or the retention of portions of the ovum. Dr. Blondel recommends the following plan of treatment which he pursues in all cases where there is reason to suspect that criminal intervention has taken place. The uterus is curetted with the finger and with a curette. It is then swabbed out with glycerin of creosote of a strength of 1 in 3, is douched out with tincture of iodine, and a gauze drain dipped in glycerin of ichthyol (1 in 10) is introduced. The drain is changed every two days; at the same time the uterus is flushed out with a solution of corrosive sublimate. The results obtained are certainly very good, but it is a question whether they would not have been equally good with a less energetic plan of treatment. It is to be noted that in 60 of the cases the fetus and placenta had already been expelled from the uterus when they were first seen. The most interesting part of the paper concerns the meth-

ods by which the criminal abortion was induced. Of the 100 cases of abortion which came under Dr. Blondel's notice 52 were purposely procured. In 22 of these a midwife was the culprit and in no less than 19 instances the patients carried out various manipulations upon themselves. On 15 occasions the midwife passed a sound and on 10 occasions a gum elastic catheter was used and an injection, presumably intra-uterine, was given. According to Brouardel this is one of the commonest means employed by French midwives. Some of them, with the view of still further swindling their clients, are accustomed to inject so-called "eau d'argent" or "eau d'or" in the form of colored water for which a correspondingly larger sum has to be paid. In two cases the patients had procured abortion upon themselves, in one instance by introducing a knitting needle and in another instance a bone knitting pin into the uterus. In nearly all cases where the patients had succeeded in passing instruments of this kind into her own uterus the organ has been found to be somewhat prolapsed. It is difficult to believe that any woman can succeed in such a manoeuvre unless such a condition of the uterus is present. The fact that Dr. Blondel, even in cases where there was no doubt that instrumental interference had been carried out, could detect no wound or abrasion of the cervix, sufficient to swear to as evidence, is not at all exceptional. It is only, as a rule, when the patient dies that any trace of what has been done can be found and even then great care must be exercised in the interpretation of any supposed signs of injury.—*The Lancet.*

Over-Dosing with Strychnine.—We are glad to find that there are some signs of a reaction against the rather reckless dosing with strychnine which has of late years become almost a routine in the treatment of shock. There can be no doubt that we have in the hypodermic administration of strychnine a most powerful agent for good in the treatment of surgical shock as it presents itself fully formed in cases of severe accident, or of collapse as it gradually grows under our eyes in the course of prolonged operations. What is its exact *modus operandi* may not be quite clear, but at all events there is much good evidence to show that it does good, and we have not a word to say against its employment in moderate doses in cases where it may be required. We cannot but think, however, that of late the hypodermic injection of strychnine has sunk rather into a routine, and that the curious insusceptibility to its toxic action which has been so marked a feature where the collapse has been profound, and the patient has been more or less soaked with anesthetic, has tempted some administrators to forget that they are dealing with a powerful drug which, except in the presence of such antagonistic conditions, may easily cause trouble afterwards. Certainly the cases which have been reported of clonic spasm and respiratory difficulties after its administration ought to inculcate caution in the use of the strychnine syringe—a means of making his patient "buck up" to which the modern house-surgeon has recourse with perhaps a little more freedom than may be quite judicious.—*The Hospital.*

Informal Prescribing and Its Dangers.—Not infrequently a physician is tempted in the case of a friend or intimate acquaintance to give a therapeutic hint rather than a formal prescription. He may name some simple drug that can be taken with benefit. Sometimes the motive will be no more than the avoidance of prescription rates in the dispensing of the drug suggested. The longer

a physician is in practice the less is he liable to make this mistake, for mistake it always is and one that may sometimes be followed by even serious consequences. Probably every physician of considerable experience has had occasion to regret such occurrences. No matter how apparently unmistakable word-of-mouth directions are, the non-medical mind can not be depended on to follow them as intended. People seem to abandon what appears the plain path of ordinary common sense at times on the presumption that they are following their physician's directions.

As a warning against this practice we have collected from recent literature some cases that show the serious evil that may flow from it. How easy it is, for instance, to suggest that a lotion of carbolic acid, 2 to 5 per cent. in strength, be used to wash off a small wound, or abraded surface, on a finger or toe. Suppose the patient, as is not unlikely, concludes that the use of a wet dressing, the gauze being soaked in the cleansing solution, may do good in preventing all danger of infection—a danger that the physician usually points out very clearly. The result may be gangrene of the finger or toe. Harrington read a paper before the Massachusetts Medical Society in which he collected 132 cases of gangrene following the use of carbolic acid solutions, of from 1 to 5 per cent. strength. In not a few of these cases the solution was applied by the direction of a physician. Harrington himself has seen eighteen such cases in the Massachusetts General Hospital and in most of them amputation of the finger or toe involved was rendered absolutely inevitable.

Effects almost as serious have followed off-hand therapeutic hints for purely medical affections. At a recent meeting of the Harvard Medical Society the case was reported of a matron who had taken some 150 drops of wintergreen oil within a few hours because her son-in-law, a physician, had suggested ten-drop occasional doses of this drug for certain presumably rheumatic pains from which she suffered from time to time. An extremely acute exacerbation of the painful condition led her to take the amount of the drug mentioned. Her medical relative-in-law found her cyanotic, extremely weak, almost pulseless and with sighing respiration. Experiences analogous to this are very common in the use of the coal-tar products for headaches, though the public has been very generally warned with regard to the possibilities of harm from these drugs and serious symptoms are not so frequent as they once were. Hints dropped as to the value of nuxvomica for run-down conditions have often been followed by muscular twitchings and even more serious cramp-like effects because non-medical persons were convinced that if a little was good, a good deal must surely be better.

Serious results from the use of so well known a poison as arsenic are not often reported, but a case has been recently under observation. The patient suffering from psoriasis in a mild form was advised to take Fowler's solution in five-drop doses three times a day. He improved rapidly under the treatment. The following spring he suffered from a relapse of the psoriasis and of his own accord took Fowler's solution once more. This time it failed to relieve as promptly as before. The patient increased the dose until he was taking twelve drops three times a day. Acute symptoms of gastric disturbance developed that were not attributed to the arsenic. With the idea that the psoriasis was a manifestation of the disturbed general condition the arsenic was continued. Finally a physician was consulted, but only after all the ordinary remedies for gastro-

enteritis had failed did the thought of possible poison occur. By this time an arsenic neuritis had developed and it is doubtful if the patient will ever be quite himself again. At least, he is not after a year of most careful treatment.

When a condition is serious enough to call for a physician's attention, the giving of a formal prescription is likely to prove least liable to subsequent inconvenience. It even seems better, as a rule, not to give many details as to the drugs that are being prescribed. Prejudices with regard to certain drugs exist and the negative suggestion thus brought into play may prove sufficient to counteract, to some extent at least, the effect of a special drug that otherwise would be helpful. Latin prescription writing has lost much of its mystery for the non-medical, but it still remains a judicious means of maintaining a certain wholesome secrecy as to the drugs that are being employed. It is not that the physician fears that the abolition of this secrecy will in any way lessen his usefulness. Familiarity with drugs, however, is apt to bring them into undeserved contempt. The formality of the prescription remains the most trustworthy safeguard for patient as well as physician against these dangers.—*Jour. A. M. A.*

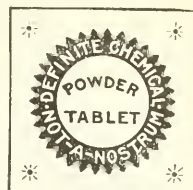
Reaction Among Mental Healers and Faith Curists.

—Some recent reactions in circles previously devoted to the entire repudiation, not to say villification, of medical science are worth noting. First: Newspapers report that vaccination has been allowed in Dowie's "Zion," and that this leader, being unable to save his own daughter from a painful death, sought the services of a practicing physician. Second: While cases, of course, are not published, owing to established professional ethics, it is well known to the profession that physicians are nowadays often being consulted by Eddyites, even by prominent members of the sect, and that occasionally some of these are to be found in our hospitals. Third: The lecturer for a certain mental-healing society tells her followers distinctly that if they need a physician they had better go to one. However, this advice apparently contains a covert reflection on their inability to be helped by mental influence. Fourth: On account of the learning and practical life of the editor, the most dignified authority on current theory and practice of mental healing is a monthly periodical called *The Higher Law*. For the last year or two its pages have shown more and more acknowledgment of the physical factors in disease. It has been stated there that mental healers are specialists, that the whole truth lies deeper than mental healers have sounded. It is explicitly proposed that believers in the allness of the mind should study physiology, and so get a look at things from a new standpoint. "If a mind-curer helps you, well and good. But do not hesitate to learn from the best doctor at hand." Whether it involves hypocrisy and insincerity, or whether it is accomplished by honest steadying of the reasoning powers, it seems by all these signs that the light of common sense is sure sooner or later to break through any cloud of fanatic prejudice or wilful ignorance which may be raised in these days when so many of the real facts about disease can be readily known.—*Jour. A. M. A.*

[That in the end all humbug and fraud will disappear from the face of the earth, we have not the least doubt. We are an out-and-out optimist, and believe that in time Truth will reign supreme. But Truth's kingdom is exasperatingly slow in coming.—Ed. M. A.]



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Miscellany

Now instructive, now amusing—but always interesting
and worth reading

VEGETARIANISM.—The recent increases in the prices of meat have driven many to complete or partial vegetarianism. This is similar to the results that have obtained in some of the European and Asiatic countries where large sections have adopted a vegetable regimen not from choice but from stern necessity. Some of the learned German physicians are discussing the subject from a scientific standpoint. Professor Hucpe argues that as the anthropoid ape was connected with the evolution of man, the primeval man could not have been a vegetarian. The ape that most resembles man lives on nuts, eggs, little birds and insects, just as the Arabians do at the present day. He thinks it probable that in the struggle for existence man gave up nuts and eggs and became an eater of meat. Later he used a mixed fare of meats and vegetables. Later still came the strictly vegetable fare.

What is a vegetable? The question seems simple enough; but, at the same time, is not altogether easy to answer. We may take one of the ordinary definitions, such as, a plant used or cultivated for food for man or domestic animals, as the turnip, cabbage, potato, bean, etc. What is the difference between vegetables and fruits? If our first question were definitely answered the second would be scarcely necessary. It is really difficult to fully answer either question. Vegetables and fruits are sometimes loosely distinguished by the usual need of cooking the former, while the latter may be eaten raw. But, as Webster tells us, the distinction often fails as in the case of quinces, barberries and other fruits, and lettuce, celery and other vegetables. Tomatoes, if cooked are vegetables, if eaten raw are fruits.

The eating of vegetables only became possible to any extent after the invention of cooking. There is no doubt that a mixed dietary is the most suitable for a civilized man. However, we know that a man may live and thrive on vegetables alone. It is fortunate, therefore, that if meat gets very expensive we can get along without it. Again, if on an average we consumed only half as much meat as is our custom now, we would be much better off, both physically and financially.—*Ex.*

SUGAR AND PROGRESS.—The statistics of the sugar consumption of the United States reported by the statistical bureau of the Treasury Department are striking enough to call for comment. From 33 pounds in 1870 the per capita consumption has risen to 68 pounds in 1901, an increase of more than double. This does not seem to take into account the other forms than cane and beet sugar; the immense amount of glucose preparations together with the fruit sugars, are apparently not reckoned. The average of sixty-eight pounds per citizen means that a very large number, probably a great majority, use a considerably larger proportion daily the larger the number who take less, the larger the amount consumed individually by the remainder. It has been calculated that one-quarter of a pound of sugar per diem is about as much as can be safely included in a healthy diet, but this figure may be found too low. The progressive increase, as shown by the statistics of the last thirty years, if it continues a few years more, will bring us well

beyond such a limit, and as it is, it is probably exceeded by hundreds of thousands at the present time. Their systems appear to be fairly able to dispose of it, so far as any definite information has been received. There may be some indigestion of saccharin origin, but diabetes mellitus and glycosuria are not notably on the increase. It is probable that an active person can safely get away with a very large amount of sugar in his diet and the noted fondness of the Anglo-Saxon people for sugar has been correlated by some authorities with their specially energetic race characteristics. The Western world got along without sugar for many centuries, but they were not the centuries of progress. The passing away of the dark ages coincided with the introduction of sugar into the diet of the European peoples, and there may be more in the connection than at first appears; it may have had its humble but still important share in the change. The unexampled progress of the nineteenth century may find part of its causation in the cheapness of sugar and the great extension of its dietetic use. This deduction may be far fetched, but not more than some other conclusions drawn from statistics.—*Four. A. M. A.*

EDUCATION—PAST AND FUTURE.—The large majority by which the Government carried the second reading of their Education Bill, and the willingness expressed by Mr. Chamberlain, in his recent speech at Birmingham, to preserve an open mind with regard to the details of its provisions, and to accept in Committee any amendments which would not sacrifice the general principles upon which the measure is based, are full of encouragement for those who desire to see the schools of the future rendered really conducive to the intellectual and practical advancement of the people. The time has therefore come at which it behoves all, who are themselves sufficiently educated to be able to comprehend the importance of the subject, to exert themselves strenuously for the purpose of securing the attainment of this end; and there can be no question but that the foremost place among those so qualified should be at once taken and held by members of the medical profession. Education is a branch of applied physiology and the control of the nourishment of the intellectual faculties should be as distinctly a part of medicine as the control of the nourishment of the physical powers. Up to the present time, the former, at least, has been left wholly in the hands of empirics, using the word in its proper and literal sense, and the mental diet provided for the children, even of the rich, has been very much upon a par with the bodily diet provided for the children of the poor: often unwholesome in kind, and erring in the direction of quantity sometimes by deficiency and sometimes by excess. We once made a casual visit to a *crèche*, established by some benevolent ladies as a place in which poor mothers might leave their infants in safe custody during working hours, and at which they were also required to leave a supply of food for the day. The provision thus made for one of the nurslings, a baby of two months' old, consisted of a piece of cheese-rind and a bone of bacon; and it was a very type and pattern of a good deal of what constitutes "schooling," and passes, too often, under the name of education.

If anything can be more grotesque than our system of schooling itself, or better calculated to defeat the objects which it is professedly constructed to attain, it would be the choice of the

(Continued on p. xiv)

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| Academy of Railway Surgeons..... | October 2-3, 1902..... | Kansas, Mo..... | T. B. Lacey, Council Bluffs, Ia. |
| Anatomists, Association of..... | | | D. S. Lamb, Washington, D. C. |
| Assn. of Genito-Urinary Surg..... | | Washington, D. C..... | John Van Jerpoel, New York City. |
| Assn. of Obstetricians & Gyn..... | Sept. 16-18, 1902..... | Washington, D. C..... | W. W. Potter, Buffalo, N. Y. |
| Assn. of Military Surgeons of the U.S. | | | Major J. E. Filcher, Carlisle, Pa. |
| Assn. for Study & Cure of Inebriety. | October 20, 1902..... | | T. D. Crothers, Hartford, Ct. |
| Climatological Association..... | June 10, 1902..... | Coronado, Cal..... | Guy Hinsdale, Philadelphia, Pa. |
| Dermatological Association..... | Sept. 18, 19, 20, 1902..... | Boston, Mass..... | F. H. Montgomery, Chicago, Ill. |
| Electro-Therapeutic Association..... | Sept. 2, 3, 4, 1902..... | Catskill Mts., N. Y..... | Geo. E. Bill, Harrisburg, Pa. |
| Gastro-Enteological Association..... | May 1, 1903..... | Washington, D. C..... | Chas. D. Aaron, Detroit, Mich. |
| Gynecological Society..... | May 5-7, 1903..... | Atlantic City, N. J..... | J. R. Goffe, New York City. |
| Laryngological Association..... | May 12-14, 1903..... | Boston, Mass..... | Jas. E. Newcomb, New York City. |
| Larynx, Rhin., and Otol. Society..... | | | Wendell C. Phillips, New York City |
| Medical Association..... | June, 1903..... | New Orleans, La..... | Geo. H. Simmons, Chicago, Ill. |
| Medical Editors' Association..... | | | O. F. Ball, St. Louis, Mo. |
| Medical Colleges, Assoc. of..... | | | Bavard Holmes, Chicago, Ill. |
| Medico-Psychological Assoc..... |, 1902..... | | C. B. Burr, Flint, Mich. |
| Neurological Association..... | | New York City..... | G. M. Hammond, New York City. |
| Ophthalmological Society..... | July 16, 1902..... | New London, Conn..... | S. B. St. John, Hartford, Conn. |
| Orthopedic Association..... | | Phila, Pa..... | John Ridlon, Chicago, Ill. |
| Otological Society..... | July 13, 1902..... | New London, Conn..... | F. L. Jack, Boston, Mass. |
| Pediatric Society..... | | | S. S. Adams, Washington, D. C. |
| Physicians, Association of..... | | | H. Hun, Philadelphia, Pa. |
| Protologic Association..... | | | W. M. Beach, Pittsburg, Pa. |
| Public Health Association..... | December 7, 1902..... | New Orleans, La..... | C. O. Probst, Columbus, Ohio. |
| Surgical Association..... |, 1903..... | Washington, D. C..... | Dudley P. Allen, Cleveland, O. |
| Therapeutic Society..... | | Washington, D. C..... | Noble P. Barnes, Washington, D. C. |
| Canadian Med. Association..... | | Winnipeg, Can..... | F. N. G. Starr, Toronto, Canada. |
| Con. of State and Prov. Bds. of Health of | | | |
| North America..... | December, 1902..... | New Orleans, La..... | G. F. Swarts, Providence. |
| International Assn. of Railway Surg..... | May, 1903..... | Indianapolis, Ind..... | L. J. Mitchell, Chicago, Ill. |
| Mississippi Valley Med. Assoc..... | October 15-17, 1902..... | Kansas City, Mo..... | H. E. Tuley, Louisville, Ky. |
| Missouri Valley, Med. Soc. of the..... | September 16, 1902..... | Sioux City, Ia..... | Chas. W. Fassett, St. Joseph, Mo. |
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| Röntgen Society of the U. S..... | | | J. Rudis Icinisky, Cedar Rapids, Ia. |
| Seaboard Medical Association..... | December 15, 1901..... | Norfolk, Va..... | John R. Bagby, Newport News, Va. |
| Southern Med. College Assoc..... | | | G. C. Savage, Nashville, Tenn. |
| Southern Surg. & Gyn. Assoc..... | November 12-14, 1902..... | Cincinnati, O..... | W. D. Haggard, Jr., Nashville, Tenn. |
| Tri-State Med. Soc. of Ga. & Tenn..... | October 8-10, 1902..... | Birmingham, Ala..... | Frank T. Smith, Chattanooga, Tenn. |
| Med. Soc. of Iowa, Ill. & Mo..... |, 1903..... | Hannibal, Mo..... | W. B. La Force, Ottumwa, Ia. |
| Med. Soc. of Md., W. Va. & W. Pa..... | | | Percival Lantz, Alaska, W. Va. |
| Western Ophthal and Oto-Laryng. Assn. |, 1903..... | Indianapolis, Ind..... | D. T. Vail, Cincinnati, O. |
| Western Surgical and Gynecological As- | | | |
| sociation..... | December 29, 1902..... | St. Joseph, Mo..... | Geo. H. Simmons, Chicago, Ill. |

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persons who are appointed to superintend its application. There can be no more curious reading than is furnished by the addresses of the candidates who seek election upon a School Board—that is to say, if we contrast the real duties of such a body with the protestations of those who desire to become members of it. The business of a School Board should be to give such a training as may enable the scholars to think independently about questions which interest either themselves or the class to which they belong, and to arrive at sound conclusions on those questions by the aid of accurate knowledge and well-considered judgment. The ordinary plea of the candidate is his desire to render the exercise of judgment by the scholars superfluous, and to force down their throats some conclusion at which he has arrived himself; and for this object he seeks the assistance of his co-sectaries, religious or political, as the case may be. The characteristic of a free and educated community would be the constant increase of knowledge, the constant diminution of prejudice, the constant enlargement of view—the advancement, in short, of all those changes which the civilization of the last two or three centuries has wrought among mankind, on the whole, to their great and unquestionable advantage. The tendency of the average candidate is towards some form of stereotype, and he usually seeks to be an educational authority not for the purpose of promoting education, but for the purpose of retarding it so far as inquiry into the value of his own crotchets may be concerned. To such forms of mental infirmity the members of the medical profession are, we think, decidedly less exposed than many other classes of the community; and membership of the educational authorities of the future will afford them positions in which they may render incalculable service to the public. They will know, at least, not only that the *corpus sanum* is of fully equal importance with the *mens sana* but also that the possession of the former is a condition precedent to the attainment of the latter, and should therefore receive at least equal consideration from any educational authority worthy of the name. They will be likely to compel attention to the prevalence of defects of sense which interfere alike with the reception and with the application of teaching, such as the sub-normal vision which has been found to prevail so extensively among school children, or the imperfections of hearing which the recent researches of Mr. Cheatele compel us to regard as being in all probability equally widely diffused. That gentleman, among 1000 children between the ages of 3 and 16, in the Hanwell District Schools, found only 423 in whom the ears were normal, and 520 in whom the hearing was more or less deficient. It was possibly one of the latter who, after careful listening to an elementary lesson in geography, replied to a question by saying that the equator was “a menagerie lion running round the earth.”—*The Hospital*.

THE JEWS IN MEDICINE.—The seemingly remarkable fact that during the dark ages the Jews were almost the only physicians is not so surprising, when we consider that the study of medicine in the twelfth century in Spain belonged to the curriculum of the ordinary course of study among all those Jews who made a pretense to belong to the educated classes. To know the laws of health, was considered among the Jews, and only among them, of the same importance as is nowadays the knowledge of the three R's.

No wonder that most of the rabbis were physi-

cians and, vice versa, that physicians were rabbis. The Jew far excelled the Arab or Moor in this branch. For the Arab was prohibited by his religion, Islamism, from the dissection of man or beast, which fact naturally was a check to the science of medicine. The church held medical science an accursed science, and looked upon physicians as upon atheists. Prayers, masses, intercessions, relics of saints and bones of martyrs were considered by the church the only legitimate cures of all the ills that human flesh is heir to. Mr. Dowie, who claims to be the second Elijah—although Elijah was poor and honest, and according to biblical accounts had to wait for ravens to get enough, in order to be saved from actual starvation—can find all the arguments for his “creed” in the doctrines of the church of Rome during the Dark Ages.

For ages it was considered wicked to make any natural study of the human frame after its death. Is it any wonder, that it was so long before the circulation of the blood was discovered, when we bear in mind that it was the church that placed her ban upon every man who dared to investigate in this direction? It is only a little while ago, that they were having processions with banners and prayers in Naples and nearer home, in Montreal, as a means of driving out the plague and the pestilence, while at the same time they were neglecting every rudiment of sanitary science, instead of finding out and obeying the natural laws of health. Yellow fever in Cuba would never have been so frequent and fatal, had it not been for the fact that the powerful church there opposed sanitation.

So far has the war against medicine been carried by the Catholic and even Protestant churches, that since the discovery of ether it has been bitterly fought. Why? For the same reasons which prompted certain clergymen to oppose fire, life, accident and other insurance. The church taught that human pain and suffering were not results of transgressions against the inexorable laws of nature, but visible signs of the anger and wrath of a revengeful God, who punishes sin. Therefore every attempt to lessen or to remove pain was regarded an arrogant and impious interference with God's righteous judgment. So every attempt to discover the natural laws of things has been fought in the supposed interest of God, and for the sake of the safety of human souls. According to good church-doctrine each region of the body was under special spiritual charge. For instance, the first joint of the right thumb was under the charge of God the Father, the second under that of the Blessed Virgin and so on to the other parts. For each disease there was a saint. A man with sore eyes must not go to an oculist, but simply invoke St. Clara. For all kinds of inflammations the good St. Anthony was regarded as a safe cure, while prayers to St. Pernel were famous as a cure for ague. Of course, the saints, being dead, could not collect the fees, but the good priests constituted themselves the self-appointed agents for collecting them.

No wonder that the clergy, seeing the business benefits these holy cures afforded, tried their very utmost to keep out competition. Every other mode of treating patients was denounced as heresy, wicked and sinful. Popes and church councils in their decrees made it a crime punishable by death for a Jewish physician to attend a Christian patient. There was only one exception, namely, when the Popes became sick. Then the Jewish physician was called. They took, it seems, Pharaoh of Egypt as their pattern. No matter

how loudly he said "Who is Jehovah, I do not know him?" yet when disease had laid its heavy hand upon him he beseeched Moses and Aaron to pray to Jehovah in his behalf. It was true then as it is true to-day. "All man possesses he will give for the prolongation of his life" (Job. 2. 4). The fact, that Satan is reported to have spoken thus changes nothing, so far as its truth is concerned. Therefore, the majority of the popes, kings, bishops and princes employed Jewish body-physicians. But the masses must go to the altars and shrines, in case of sickness.

Before entering upon the medical achievements of the Jews, the following facts may be cited: At the Church Council at Beziers (France), in 1216, under the presidency of the Archbishop of Narbonne, Christians were prohibited under penalty of excommunication from employing Jewish physicians. But wonderful are the ways of Providence. Although this decree was passed under the fanatical French King Louis IX., no sooner was his brother Alfonso, Duke of Poitou and Toulouse, afflicted with a disease of the eye than the Jewish physician Abraham of Aragon, a skillful oculist, was called. It was no easy matter to get him. The Lord of Lunelle by means of his Jewish agent had to use great efforts to induce the rich and independent Jewish physician from Spain to attend to the French prince.

Jews were prohibited from medical practice under Juan II. in Spain (1412), under Pope Benedict XIII., by the Council of Basle (1443), by Pope Eugenius IV., Nicholas V., Paul IV., Gregory XIII. That Lutheran protestantism was not less bigoted is proven by the fact that as late as the seventeenth century Jewish physicians were not allowed to practise in the German commercial city of Hamburg.

As early as the third century Rabbi Mar Samuel ascribed most diseases to vitiated air and attributed the greater mortality of those wounded in battle to the longer influence of the air upon the wounds. Towards the close of the ninth century Isaac ben Suleiman Israeli wrote, beside other medical books, an Arabic work on fevers, which was soon translated into Latin, Spanish and Hebrew. Among the books prescribed by the statutes of the medical faculty of the Paris University (1270) were those of this very Isaac Israeli. Now a monk, Constantine of Carthage, who founded the first school of medicine in Salerno, Italy, claims the authorship of seven Latin volumes on medicine. Modern investigation, however, has proven that the Jew, Isaac, and not the monk was the author. Nevertheless the Jewish physicians were so popular with the rulers, the nobles, the masses and even with the clergy, that all decrees of the church against them were powerless. From the tenth to the twelfth century nearly all the physicians of Europe were Jews. No wonder that they frequently gained very great influence over their patients.

At one time France possessed three medical schools, Arles, Narbonne and Montpellier.¹ The second was presided over by Rabbi Abbu, and the third by Profatius, also a Jew. Rashi, or Rabbi Salomon ben Isaac (1040-1105) was the leading French physician of the eleventh century, unrivaled in his age for the obstetrical operation known as the Cæsarian section. Prunelle in his book "Discours sur l'influence de la médecine," says, "The reputation of the Jewish physicians was so great that at one time it was asserted that to be a good physician one had to be of Jewish extraction."

¹ The instruction in medicine was given in Hebrew.

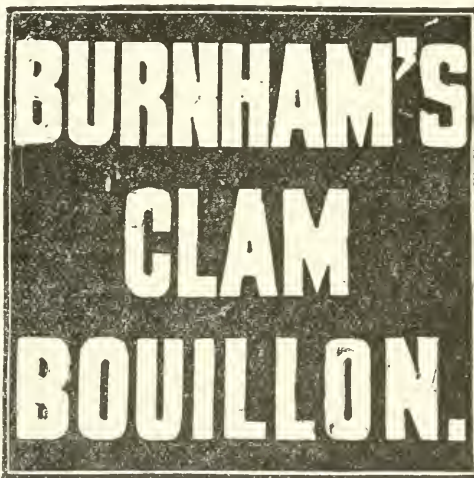
(Continued on p. xvi)

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(Continued from p. xv)

In the Frankish and Burgundian kingdoms, where Jews in the sixth century, *i.e.*, 1400 years ago, carried on trade, navigation, agriculture and commerce and owned their own ships, Jewish physicians were most popular. Emperor Louis the Pious of France, in spite of his great piety (843), employed the Jewish physician Zedekiah. The ignorant masses looked upon his skill in medicine as magic and the work of the devil. Sabbatai Donnollo (913-970) was body physician of the Byzantine Viceroy, Basilicus Eupraxios. He was a friend of an Italian abbot, Nilus of Rossana, who was later canonized by the church. Once he noticed that the ascetic was ill and offered his help. But the "holy" Nilus declined, candidly saying that for him to take medicine from a Jew and get cured by him might injure his reputation and authority as worker of miracles among the simple-minded Christians, who would naturally place more confidence in the Jews than in his miracles. Hugó Capet, a French king of the tenth century, had a Jewish body-physician. The Castilian, King Alfonso VI., who laid greater stress on the sword and diplomacy than on the cross and prayer, employed Jews as ambassadors. One of them was his body-physician, Amram ben Isaac Ibu Shalbib.

Francis I., King of France, flatly refused a Christian physician and when unable to get a physician from Spain, he sent to Constantinople for one.

King Henry IV. of Castile had the body-physician Jacob Ibu Nunez. Although in the Byzantine empire the Jews were most bitterly persecuted and were prohibited from riding on horseback, the Emperor Emanuel employed a Jewish physician, named Solomon, from Egypt, who was privileged to ride on horseback. William the Conqueror went to Salerno to be treated by a Jewish physician. King Ferdinand III. of Spain employed Rabbi Jehuda bar Joseph, of the family of Ibu Alfakar, as his physician in ordinary. The Spanish King, Jayme, in the thirteenth century, employed as physician in ordinary his favorite, the Jew Bachel Ibu Alkonstantin. Charles of Anjou, King of Sicily, had a Jewish physician, Farraj Ibu Salomon or Farragut. King Alfonso XI. of Spain had Samuel Ibu Wakar (1325-80) as his body physician.

Joseph Orabuena was physician in ordinary of King Charles III. of Navarre (14th century). Chief Rabbi Don Meir Alguades was physician in ordinary of the Castilian king, Don Henry III., and so was Moses Zarzel (Carcel). The celebrated Jewish doctor Guglielmo (Benjamin) di Portaleone of Mantua was physician in ordinary of King Ferdinand of Naples. Even in Germany, always the hot-bed of Jew-baiting, Emperor Frederick III. (15th century) had still a Jewish physician in ordinary, named Jacob ben Jechiel Loans, whom he made a knight. As late as the sixteenth century the Doge of Genoa, Andrea Doria, employed the Jewish physician Joseph ben Joshua Cohen (born in 1496 in Avignon). As late as the seventeenth century, Queen Maria de Medicis of Paris had a Jewish physician, Elias Felice Montalto, and King Christian IV. of Denmark, Schleswig and Holstein, a Jewish physician, Benjamin Musaphia; this in spite of the fact that three theological faculties (this time Protestant had decreed that no Jewish physicians should be employed by Christian patients.

Joseph Salomon Delmedigo (1591-1655), a Jewish Italian free-thinker, was the physician of Prince Radzivil Wilna (17th century). Balthazar Orobio de Castro was physician to the

Duke of Medina-Celi at Seville, Spain. He was a Marrano, *i.e.*, a Jew in secret. But a treacherous servant, who found it out, accused him and as a result he was put in prison for three years and horribly tortured. Yet he remained true to Judaism, was driven out of Spain, went in 1666 to Amsterdam, where he publicly professed Judaism and published books against Christianity which created a great sensation. Roderigo Lopez was court physician of Elizabeth, Queen of England. He is famous as the prototype of the "Jew of Malta," by Marlowe.

But the greatest of them all was Dr. Moses ben Maimon (born March 13, 1135, died at Cairo, December 13, 1204). He translated the medical works of Hippocrates and Galen, but won such great fame as a practitioner that he not only became the court physician of Saladin, but was invited to accept the post of court physician to Richard Cœur de Lion in England, which flattering offer he refused. The following letter of Maimonides, written from Cairo to Samuel Ibu Tibbon, the great translator of his "Guide of the Perplexed," who wanted to visit him for the purpose of discussing some literary points, shows not only Maimonides' popularity as a physician, but his devotion to the poor and to his science:

"Now God knows that in order to write this to you I have escaped to a secluded spot, where people would not think to find me, sometimes leaning for support against the wall, sometimes lying down on account of my excessive weariness, for I have become old and feeble. But with respect to your wish to come here to me, I cannot but say how your visit would delight me, for I greatly long to converse with you. Yet I must advise you not to expose yourself to the perils of the voyage, for beyond seeing me and my doing all in my power to honor you, you would not derive any advantage from your visit. Do not expect to be able to confer with me on any scientific subject for even an hour, either by day or by night, for the following is my daily occupation. I dwell in Mizr (Fostat) and the Sultan in Kahira (Cairo). These two places are two Sabbath days' journeys (about one mile and a half) distant from each other. My duties to the Sultan are very arduous. I am obliged to visit him every day, early in the morning, and when he or any of his household are indisposed I dare not quit Kahira, but must stay during the greater part of the day in the palace. It also frequently happens that one of the royal officers falls sick and I must attend to his bidding. Hence, as a rule, I repair to Kahira very early in the day, and even if nothing unusual happens, I do not return to Mizr until the afternoon. Then I am almost dying of hunger. I find the ante-chambers filled with people, both Jews and Gentiles, nobles and common people, judges and bailiffs, friends and foes—a mixed multitude, who wait the time of my return. I dismount from my animal, wash my hands and go forth to my patients. I entreat them to bear with me while I partake of some slight refreshments, the only meal I take in the twenty-four hours. Then I go forth to attend to my patients, write prescriptions and directions for their various ailments. Patients go in and out until nightfall, and sometimes even until two hours and more in the night. I converse with, and prescribe for them while lying down from sheer fatigue, and when night falls I am so exhausted that I can scarcely speak. In consequence of this no Israelite can have any private interview with me, except on the Sabbath.

(Continued on p. xviii)

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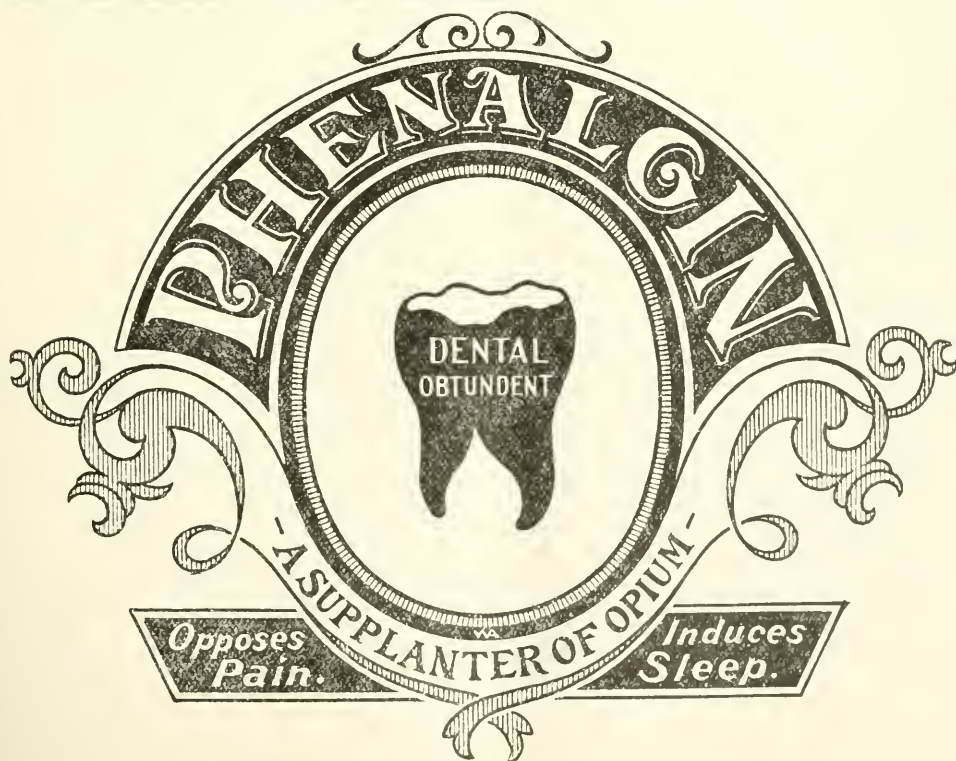
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(Continued from p. xvi)

"I have here related to you only a part of what you would see, if you were to visit me."

There are those who claim that not the Jews but the Arabs were the leading physicians during the Middle Ages. This is best refuted by the fact that Mohammedan rulers employed Jewish physicians in preference to Mohammedans. Here are some instances: Isaac Israeli was the court physician of the first two Kaliphs. Abu Ayub, also called Salomon Ibn Almullem, of Seville, was physician of the Kaliph Ali. Nathaniel (his Arabic name was Hibat-Allah-Ibn-Aljami) was physician of two Kaliphs, Aladhid and Saladin. Abulmeni Abraham Mainuni (1185-1254), son of the aforementioned Maimonides, was the physician of Alkamel, brother of Saladin, who employed his father in the same quality. Saad-Ad-daula (13th century) was court physician of Argun, king of the Perso-Mongolians. Joseph Hamon was court-physician of Selim, the Sultan of Turkey (end of 15th century). His son, Moses Hamon, occupied the same position under the wise Sultan, Solyman, and his nephew was also a court-physician. Joseph ben Jachya was the physician of Sultan El Malik, and Chacham Jacob the physician of Sultan Mohammed III.—Dr. E. Schreiber, Rabbi, in *Med. Standard*.

THE VICTIMS OF THE WAR.—The termination of the war has given rise to exuberant expressions of joy all over the country—not so much of triumph or exultation as of gladness that the war is over. Perhaps to some extent this is due to the character of the struggle and to the nature of the reports sent home by many of the newspaper correspondents. The exigencies of the censorship in regard to matters military have driven some of the correspondents to turn their pens towards hospitals and such-like gruesome details, and one can hardly doubt that the prominence given to medical affairs in all the reports from the Front has done much to drive into people at home the distressing rather than the exciting side of war. Not only has the list of our losses been a long one, but these losses have told of fevers and weary illnesses patiently nursed and patiently endured, the unexciting miseries of disease rather than of heroic struggles and deeds of daring on the field of battle. Taking deaths alone, while 5,776 officers and men are put down as killed in action, and 2,019 as having died of wounds, no fewer than 13,272 are stated to have died of disease. We have indeed heard so much about fevers and the like that some people have run away with the idea that microbes rather than bullets have constituted the chief danger in this war. When compared with other wars, however, this is found not to have been the case. Take, for example, the conflict between Russia and Turkey in the years 1877 and 1878, the last great European war. This was a war of big battles, the frightful slaughter before Plevna being an example of all that is most horrible in warfare. Yet in the Russo-Turkish war, which lasted only 18 months, and in which 505,000 Russian troops were engaged, the Russians lost roughly 88,000 from disease against 28,000 from wounds. Thus, while our deaths from disease have not quite doubled our deaths from wounds, more than three times as many Russians died of disease as from wounds during their much shorter war, and this notwithstanding the slaughter which took place time after time under the guns of Plevna and in the Balkans. It is, however, when we look at the ratio between the losses by disease and the total number engaged that we see how comparatively good has been the

health of our troops in South Africa, the deaths from disease among the Russians in 1897-98 having been more than four times as numerous, in proportion to the numbers engaged, as they have been among our troops during the recent war. When we turn from the question of disease to that of wounds one thing comes out in a very striking manner—namely, the very high ratio of officers to men who were killed in action or died of wounds, and the high ratio of men to officers among those who died from disease. Among those killed in action there seems to have been one officer to 10.15 men, while among those who died of wounds there was one officer to 11.34 men; but among those who died from disease there was only one officer to 38.5 men—a very different ratio. In other words, among the sick there was perhaps a somewhat larger proportion of men, while among the killed and mortally wounded there was a far larger proportion of officers than obtains in the Army generally.

Many causes have conspired to produce this excessive loss of officers on the field. It is evident that leaders must always be more exposed than men, and in the early stages of the war the officers were obviously made targets of by the enemy. There seems but little room for doubt, however, that many young lives were thrown away in the mad race for the Victoria Cross, a decoration which, although instituted as a reward for valour, has too often acted as an incentive to reckless daring. All honor to the brave lads! but one is sorry. Finally let us not forget the long list of invalids who have been sent home, somewhere about 70,000 in all, more than 6,000 of whom have since died or left the service, while probably all have had their lives shortened and their usefulness diminished by the sufferings they have undergone. They also are victims of the war. The vastness of the medical work and the immensity of the suffering which the medical department has struggled to relieve in the course of the war are difficult to realize. And yet, be it remembered, as wars go, this has not been a great one. If we want to know what war really means we must think of Gravelotte, where in one single battle the victorious Germans lost 328 officers and 4,900 men dead on the field, besides nearly 15,000 wounded, not so very far from the total of those killed in action during the whole of this South African campaign. Let us thank God that we are now at peace, and let us pray that we may never be involved in what our friends upon the Continent would call a real war.—*The Hospital*.

INTUITION.—Man is the combined result of heredity and training—heredity predominating to the extent of four-fifths of his nature.

Take almost any family and cultivate a talent for music, mathematics, or any branch of knowledge, and the resultant faculty comes, in time, to be instinctive and unerring in its manifestations, so as to require little or no tutelage. Its possessor astounds the undeveloped minds of others by the brilliancy of his accomplishments. Musical prodigies and mathematical geniuses, who can solve the most intricate problems in an instant, yet can not explain how he does it, are illustrations of what may be done in the way of developing a certain faculty.

The keen intuitions of animals in scenting danger, foretelling changes in the weather, keeping on the track of forage grounds and water, their ability to find their way anywhere, are familiar to us all.

The ancient Hebrew race subordinated the

body and cultivated the spiritual nature until they claimed to know, of a certainty, spiritual truths, to which the ordinary man is blind and deaf. Now, the question arises, were they self-deluded, or is there a basis for believing that by cultivation they attained to a rarity and fineness of perception which enabled them to grasp certain truths, and make them a part of their consciousness, even though unable to explain how they got them.

Our feelings are not always blind guides.

Some people have strong intuitions concerning the nature and character of men; can tell whether or no they are honest, faithful, trustworthy, capable. Without knowledge of a man, without proof to demonstrate the reasonableness of a belief or disbelief, ninety-nine times out of a hundred, this intuitive drawing or repulsion is correct.

To medical men intuition has a great practical value. To be a good doctor, one must get *en rapport* with the patient—must be able to class his temperament, understand his constitution, so as to manage him wisely as well as to treat his disease.

A pathological condition may be produced by both mental and physical causes. In one case, remove the physical difficulty and your case recovers promptly. In another case, after you have put the machine in order, there is a hitch. Intuition is of great service in probing for psychical obstacles to recovery. The doctor who can do this will attach his patients to him strongly; the doctor who can not will lose a goodly proportion of them to Christian Scientists, mind-healers, etc.

Suppose a man whose heart troubles him sends for a physician. He has been laboring under a great strain of some kind—financial embarrassment, domestic troubles, etc. The doctor examines him, can find nothing wrong with the valves or other objective evidence of disease. Or, perhaps, he does not really know what to do for the man, so he bluntly tells the patient there is nothing wrong with his heart, and he needs no treatment.

But the patient knows better. He knows that he suffers, that his heart beats irregularly, and causes him anguish and terror of sudden death. He wants relief, and goes about from doctor to doctor until he finds one who can understand that care, strain and exhaustion may and do produce pathological conditions of the organs without gross evidences of diseased function of structure.

To understand a condition awakens sympathy and interest. When intuition reaches a perception of what is wrong and what is needed, the rest is simple.

Many of us have seen the old country doctor come in, sit down by his patient a few minutes, ask a few questions, and render an accurate diagnosis. He seemed to know the minute he laid eyes on the patient what was the matter. His examination and questions are simply to confirm the intuitive diagnosis.—*Med Brief*.

THE ADVANTAGES OF A BROKEN HEAD.—Practically all cases in which people are so smitten with sudden illness as to become unconscious in the street fall into the hands of the police. Under such circumstances lucky is the invalid if in falling he cuts his head, and bleeds with sufficient profusion to be classed as an "accident," for then will he be taken to a hospital. Otherwise the chances are that he will be treated as a "drunk," especially if on first feeling ill he has taken ever so small a dose of brandy, and thus produced that "breath smelling of spirits" which has condemned so many a man to death in a police cell.

It is a curious contrast to see the riotous brawler with the broken head being carefully attended to by skilful doctors and kindly nurses, while the quiet and harmless drinker whose only offence is that he tumbles down and lies in everybody's way, is thrown to sleep it off upon the plank bed of a police station. But the serious part of the business is that the unfortunate, who being attacked with sudden illness—ingravescent apoplexy or the like—becomes unconscious in the street, is classed with the "drunk and incapables"—unless, lucky man, he cuts his head, for then he may be taken to hospital. Knowing, as we do the frightful nuisance caused to the sick by the intrusion of drunken people into hospital wards at all times of the night, we would be the last to suggest that every unconscious person picked up by the police should be taken to a hospital. What we do urge is that every such person taken to the police station should be seen by a medical practitioner, and should under no circumstances be shut up to "sleep it off," or left in the hands of unskilled nersons. We are not quite satisfied that the arrangements with the divisional surgeons in regard to "calling up" at night are altogether what they should be. Whatever the expense, something should be done to prevent the danger of "death in the cells" which at present hangs over those who happen to be attacked in the streets with illness simulating drunkenness.—*The Hospital*.

"OUR legislators," protests the machine politician, "are not as bad as they're painted."

"No?" replied the plain citizen. "Well, they're certainly not as good as they're whitewashed."—*Philadelphia Press*.

PROOF PRESUMPTIVE.—A Mohawk Valley Justice of the Peace invariably gave judgment for the plaintiff in civil suits before him, without hearing the defendant, silencing that unfortunate litigant with "Vell, vot I tinks he sue for if you don't owe him?"—*Rochester Democrat*.

FOR EXAMPLE.—"Brooks" said Rivers, "that's the second time I've heard you use the phrase 'aching void.' I wish you would tell me how a void can ache."

"Well," said Brooks, reflecting a moment, "not to speak of a hollow tooth, don't you sometimes have the headache?"—*Chicago Tribune*.

"YES, he invited the trust president to dinner. He wanted to draw a moral lesson. He wanted to show the man of the octopus that while he was gorging himself on the best of everything there were thousands who were made poorer by his iniquitous schemes."

"How did it work?"

"It didn't work at all. All the president ate was a little rice and water with a small slice of dry toast."—*Cleveland Plain Dealer*.

NO CENTURY has ever begun on a Wednesday, a Friday, or a Sunday, and the same order of days is repeated each twenty years. January and October of each year always begin with the same day; so with April and July; so with September and December; so with February, March and November.

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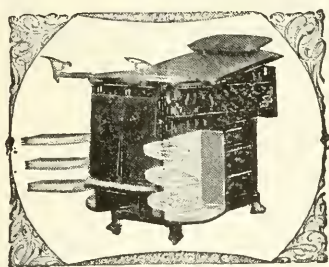
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Tablets. The latter tablets promptly arrest excessive fermentation, have a pronounced sedative effect on the mucous membranes of the bowels and stomach, and will check the various diarrheas without untoward effect."

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CONCERNING COLLEGE ATHLETICS.—In placing athletic sports as the least of the qualifications sought in a young man to be fitted for a career of conspicuous value to humanity, Mr. Rhodes reflected the best scholastic thought of his time. He knew too well the value of a sound body and vigorous health to characterize as "flanneled fools" and "muddled oafs" those who have a wholesome love of vigorous physical exercise; but one who had earned his degrees as his were earned, by leaving behind him the opportunity to win great wealth and attain vast power while he patiently completed the interrupted studies of his earlier years, realized as few could that the chief end of man is not to excel at football or cricket, and that during the precious years of youth play should be properly subordinated to the more serious purposes of collegiate training.

There is a reaction in England against the overdoing of college and university athletics to which the London *Times* has given the powerful support of its editorial approval. In a recent discussion of this subject it took the ground that to permit a young man to devote himself chiefly to training for interscholastic and intercollegiate "events" at the time when what he most needs is mental training and discipline to fit him for the serious business of life, is to waste precious opportunities without present or ultimate compensation. "It is impossible," says *The Times*, "to shut one's eyes to the fact that from an educational, if not from a national point of view, the thing is vastly overdone." A great many fine specimens of the human animal may be the product of this system, but even in this respect its value has been overestimated. The fact that only young men with a superior physical endowment excel in athletics sufficiently accounts for the fact that those who excel in athletics are usually fine specimens of physical manhood.—*N. Y. Times*.

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Has Alcohol a Place in Therapeutics?

WE have been asked several times to state our position on the "alcohol question." One of our correspondents thinks that it is the paramount question we have to consider, both as physicians and as citizens, and he therefore would like to see a thorough discussion of the subject in all its various aspects. We fully recognize the importance of the alcohol question, but the subject is so large that to discuss it from all points of view—as a therapeutic agent, as a beverage, and as a social-economic factor—is beyond the scope of a single editorial. In this issue we shall, therefore, discuss only one side of the question—alcohol as a therapeutic agent.

It must be made clear from the very outset that in a discussion of the therapeutic value of alcohol, sentiment can have no place. The desire to introduce sentiment into the discussion only befogs the issue. That alcohol often produces untold misery, nobody has ever attempted to deny; but so does morphine, so does cocaine. The morphine and the cocaine fiends are more pitiable objects than the dipsomaniac, and less amenable to treatment. Still, in discussing the therapeutic value of the above-mentioned alkaloids we do not allow ourselves to be side-tracked by the fact that the improper use of these drugs produces disastrous effects. Similarly, in discussing the value of alcohol as a therapeutic agent we must dismiss from our mind the fact that

it has a ruinous effect when used improperly, or in too large doses, or for too long periods; hard as it is to do it, we *must* forget that it is destroying many homes, that it sends thousands of people to the poor-house or to a premature grave, and that it is the cause of a great percentage of the homicides and murders committed. We must also keep as distinctly separate, the question of the habitual moderate use of alcohol as a beverage. In short, the discussion becomes narrowed down to this point: Are there diseases or conditions of disease in which alcohol in any of its various forms is a useful agent? And to this question we will endeavor to give an unbiased answer. Fairness, however, demands that the question be still further narrowed, so as to read: Are there diseases or conditions of disease in which alcohol in its various forms is such a useful remedy that it cannot be replaced by any other therapeutic agent? Because this much we are willing to yield to the medical prohibitionists: If there are other agents that will produce *the same* results as alcohol will, then the use of the latter is utterly unjustifiable, in view of the ease with which the alcohol-habit may in some cases be induced. And our answer is; There *are* diseases and conditions of disease in which alcohol cannot be replaced by any other therapeutic agent.

As an example of a disease, we would mention puerperal septicemia. No observ-

ant physician can have failed to notice the large doses of alcohol that are assimilated in this disease, and the almost immediate good effects that follow its administration. As conditions of disease, we would mention all those asthenic states, accompanied by great prostration, with which we are sometimes confronted in the course of typhoid, diphtheria, pneumonia, etc., where the first sound of the heart is feeble or absent, where the tongue and skin are dry and parched, and where there is a low, muttering delirium. The action of alcohol in these conditions is sometimes truly gratifying—we might say, magical. Osler says: "We are still without the agent that can counteract the gradual influence of the poisons which develop in the course of acute febrile diseases, the chief effect of which is exercised upon the circulation, increasing the rapidity of the pulse and inducing a progressive heart failure. To meet this indication the general experience of physicians still points to alcohol as the most trustworthy remedy. Although some hold that alcohol in this condition is not indicated, I believe that it is in many instances the only remedy capable of tiding the patient over the most dangerous period." Of course, the dictum of any one man is not to be taken for a final decision in matters of this sort, but we submit that the opinions of men having experience with thousands upon thousands of cases, under the most favorable circumstances for careful observation, are worth more than opinions based upon pure theory, upon laboratory research only, or a limited practical experience.

How alcohol acts in such cases is to us of less than secondary importance; but *the fact* that in certain conditions of disease such large amounts of alcohol are taken eagerly and are assimilated without producing the least intoxicating effect or even tainting the breath—amounts that in the same people in a condition of health would prove deeply inebriating—is to us proof positive that the system is *in need* of that agent and that it has a very important rôle to perform. Very possibly its utility is not as a stimulant, or narcotic, or food, but as a direct antitoxin to the toxins of the dis-

ease. As to the enormous amounts which some patients, who have never before used alcoholics, can consume without showing any effect, most physicians can bear witness. A patient of ours, a delicate young woman, suffering from mild septicemia *post abortum*, consumed a quart of champagne daily with none but the most beneficial results, which began to show themselves only after the administration of the champagne. Before becoming sick, the young woman had a distaste for all kinds of alcoholics, and on recovery the same distaste reappeared.

Prof. Shattuck reports, out of many personal observations, the following two: A boy of seventeen, ill with pneumonia, not used to alcohol, was taking a bottle of brandy and two quarts of champagne during the twenty-four hours, with no more toxic effect than if it were water. He recovered and acquired no fondness for drink. The second case was that of a lady of seventy, always temperate, who was prostrated by the gripe. For several weeks she was taking whisky at the rate of a bottle every three days. The results were beneficial and there was no suggestion of toxic effect.

The following statement by the same experienced observer is very important: "I think I have seen persons take alcohol with avidity and benefit for a time, and become instinctively unwilling to take it as the indications which led to its use have passed away."

Dr. S. J. Meltzer reports the case of a young girl, ill with typhoid fever, weighing about 65 pounds, to whom he gave nearly a pint of whisky every day for eleven consecutive days, without any untoward symptoms. That was at the time when typhoid fever was treated with large doses of alcohol, and at that period, the author says, he did not lose a single case of typhoid.

And here we come again to the danger, pointed out by us more than once before, of making pharmacologic experiments or laboratory evidence our supreme guide in the clinical administration of drugs. This is a real danger, which we must strenuously avoid if we do not wish to become useless to our patients. If the various theories and

pharmacologic findings derived from experimentation on frogs, guinea-pigs, and dogs accord with our clinical facts, well and good; if they don't, let them take care of themselves and let us stick to the facts. This is *apropos* to the *theory* of the action of alcohol. For centuries alcohol has been administered in disease with apparently good results. If the results had been *apparently* evil, alcohol certainly would not have survived so long as a therapeutic agent. Its action was supposed to be that of a stimulant. Now, pharmacologic research tells us that alcohol is not a stimulant in the physiologic sense, but a narcotic. The medical prohibitionists are in high glee. "Discard alcohol at once! You thought it was a stimulant; it has been shown (by experiments on lower animals) that it is a narcotic; therefore you have no further excuse for using that poisonous stuff." The true clinician, with plenty of practical experience, is usually not deterred by such arguments. True, he feels puzzled and disconcerted for a time, but he keeps to his practice, waiting for further developments in the pharmacologic research or for a new theory. And they—the new theories or experimental developments—are generally not very long in making their appearance.

Regarding alcohol, Cushny states that *just the very fact of its being a narcotic* makes it valuable as a therapeutic agent. The effects aimed at by the clinician have been misnamed stimulation; they are really narcotic in nature, and hence in entire agreement with the experimental results. It is difficult to understand, he says, what use we could make of alcohol in disease, were it a cerebral stimulant; no mental exertion is encouraged in acute disease, but every effort is made to restrain the activities of the patient in every direction. The room is darkened, every noise is excluded as far as possible, exciting conversation and reading are forbidden. How absurd it would be to take all these precautions to induce bodily and mental rest, and at the same time to order a drug with the intention of promoting cerebral activity! The truth appears to be that when the clinician applies the term

stimulant to alcohol, he uses the word in quite a different sense from that in which it is understood by the experimental observer. His meaning is less definite and he wishes to indicate only the improvement often noted in the general condition, without considering whether this is due to an augmentation or retardation of the mental processes.

The result of alcohol, as well as of opium (which was formerly credited with stimulant properties) is in reality a cerebral depression, which manifests itself in a condition of euphoria. Disease often loses its strongest ally when the anxiety and worry of the patient are allayed by alcohol. And Cushny reiterates that the depressant or narcotic action of alcohol, far from being in conflict with its clinical use, supplies a definite and logical explanation of the improvement so often noted clinically after its administration.

Clinical evidence being distinctly in favor of alcohol as a therapeutic agent, and pharmacologic research, in the light of Cushny's plausible explanation [an explanation, though, which we for several reasons are not yet quite ready to accept], not being opposed to it—though it would not make any difference, if it were—we answer with a most emphatic Yes! the question, Has alcohol a place in therapeutics? It has a place and a very important one, too. And we know of no other agent capable of fully replacing alcohol in the conditions in which the latter is indicated. To dilate upon the discrimination with which it must be used, upon the careful regulation of the dosage, according to the age, condition, character of disease, etc., upon the necessity of individualization, etc., would be a mere waste of time and space. *Nobody* ever claimed that any drug could be used indiscriminately in all diseases, in all kinds of doses, without watching the effects and discontinuing the use as soon as the indications were over. We say nobody ever claimed any such thing for *any* drug, and it is as a *drug* as a medicinal substance, that we have considered alcohol in this editorial. The subject of alcohol as a beverage is important enough to be treated of in a separate editorial.

[Contributed to MERCK'S ARCHIVES]

THYROID EXTRACT IN GYNECOLOGY¹

By J. Coplin Stinson, M.D., San Francisco, Cal.

THYROID extract is a comparatively new remedy. The preparation with which I am most familiar is thyroïdin—the dried extract of sheep's thyroid, 1 part representing 6 parts of the fresh gland. It is a whitish powder; dose, $\frac{1}{2}$ to 1 grn., gradually increased to 2 grn. three times daily. It is a general alterative, antifat, a uterine alterative, anodyne, sedative, and antiphlogistic. It has been used in myxedema, cretinism, psoriasis, goiter, exophthalmic goiter, obesity, chronic melancholia, fibroid tumors of the uterus, ovaritis, hemorrhagic affections of the uterus, pelvic congestions, hemorrhagic endometritis, menorrhagia, and amenorrhea due to obesity, hemorrhages dependent upon flexions and versions, frequent abortions, chronic tubal disease, sterility, keloid, chlorosis, gout, rickets, diabetes, acromegaly, deafness and sclerosis of the middle ear, as a galactagogue, in cancer of the uterus, and in recurrent cancer of the breast. The writer has been studying clinically the action and uses of thyroid since it was introduced to the profession, and in this paper takes up the action of this animal extract in gynecology.

(1) In *dysmenorrhea* and *ovarian neuralgia*; i.e., in those cases where an examination does not reveal any lesion of the pelvic organs. The difficulty in relieving and curing cases of dysmenorrhea depends upon the fact that their impressions of pain become more and more marked as time goes on, and nothing so much increases their susceptibility as the use of opiates. The abuse of opium, other narcotics, anodynes, and stimulants is widespread, and furthermore, these drugs, under routine use, induce conditions of the nervous and other systems that are more difficult to cure than the original disease. Having determined the conditions of the uterus, ovaries, etc., in all cases wherein an examination is justifiable, the treatment is commenced. More harm than good has been done by the administration of opium in such cases. It is very easy to get into the habit of using it. Only in very extreme cases should it be used, and then it should preferably be given in the form of a suppository. Of course, all cases of dysmenorrhea are somewhat relieved by rest, recumbent posture, hot applications to the lower abdomen, and hot douches, but there are many patients who cannot afford to lay up for several days each month. Thyroid

extract supplies material to the system which influences metabolism, is carried in the plasma to the tissues of the organs, and has a specific action upon the vasculo-motor-nervous mechanism of the uterus and adnexa. As the sensibility to uterine and ovarian pains is readily diminished and abolished by thyroid extract, it is thus a uterine and ovarian anodyne and sedative.

Marked systemic affects are produced by repeated medium doses of thyroid. The nervous and vascular systems are considerably affected, the pulse-rate is increased, arterial tension lessened, the cerebrum is somewhat stimulated, loss of weight shows increased tissue waste, and the normal functions of the skin, uterus, and, presumably, other organs of the body are re-established.

In April, 1901, the writer was treating a patient for painful menstruation. For years she had suffered severely with pains at each period, during which time she had to leave her work, go to bed, apply hot applications, and use internally hot drinks, household remedies, whisky, paregoric, and many other remedies without much relief. Examination of her pelvis and abdomen showed, as far as I was able to detect, that the uterus and ovaries were in normal position and good condition. I prescribed for her suppositories of belladonna and opium, and gave in addition internally belladonna, chloral hydrate, viburnum, and paregoric. These afforded her some relief. I also, several times at my office, dilated the cervix, using metal dilators. These produced considerable pain, even with free use of local anesthesia, but relieved the severe menstrual pains somewhat when her periods came on. A few months later, on account of considerable obesity, I put her on a diet, exercise, and thyroïdin. She had been using the thyroid for several weeks when her menstruation came on. She continued the thyroid during this time, and afterwards reported to me that she had gone through her period without any pain. The thyroid reduced her weight 12 pounds, and she has since then been relieved at each period of dysmenorrhea by the administration of thyroïdin, 1 grn. in capsule three times a day, given for two days before menstruation, and increased to 2 grn. three times a day during menstruation. She was and is thus completely relieved of pain without producing any disagreeable symptoms; furthermore, the thyroid appears to act also as a general tonic, increasing muscular and nervous energy.

Since this case the writer has repeatedly used thyroïdin in painful menstruation with nearly perfect results, affording nearly per-

¹ Read before the San Francisco County Clinical Society, July, 1902.

fect relief in over 80 per cent. of cases. Thus it is evident that thyroid extract is efficacious, administered as above described, and does not produce thyroidism, as the drug is not taken long enough at a time to produce untoward symptoms. During the intervals constitutional and local treatment may be required. This implies correction of all defective hygienic conditions, greatest care in diet, bathing, dress, exercise, and mental exertion; regulation of the bowels. Moderate sexual intercourse has a favorable influence in these cases. Pregnancy and child-birth often cure the disease. Reduced iron, $\frac{1}{2}$ grn.; arsenic, $\frac{1}{60}$ grn.; strychnine, $\frac{1}{60}$ grn.; gentian, $\frac{1}{4}$ grn.; and cascara, $\frac{1}{2}$ grn. in pill or capsule, taken daily three times after meals or more frequently, is of value in the anemic. The general nutrition should be improved by malt extract and a full diet. All excitement, both local and general, as well as excessive sexual intercourse, dancing, and the prolonged use of the sewing machine should be avoided. All pathological lesions of the uterus adnexa and vicinity should be remedied by proper medical and surgical treatment. Any disturbances of digestion and excretion should receive appropriate treatment. If during the interval there is pain (neuralgic) in the uterus or adnexa, thyroidin, 1 to 2 grn., administered twice or thrice a day, acts splendidly in relieving it, without producing any untoward symptoms. Cases not relieved by thyroid or other treatment should be subjected to surgical operation: i.e., through dilating of the cervix uteri and other operations that may be indicated.

(2) In some cases of *myxedema* and in women deprived of the thyroid gland there are excessive menstrual discharges, and as these patients grow older the menses last longer, until finally there is almost constant flowing. These hemorrhages are directly amenable to thyroid treatment.

(3) In *endometritis with hemorrhages*, thyroid is of value by stopping the bleedings, relieving pains, and lessening pelvic congestion.

(4) Thyroid extract is of value in *painful and adherent ovaries* (ovaritis), as it lessens the amount of blood supply and relieves the pain.

(5) *Menorrhagia* or *metrorrhagia* from whatever cause, even when associated with retroversion or prolapsus, is in nearly every case favorably influenced by thyroid.

(6) In *cancer of the uterus*, etc., recurring after thorough radical operation, thyroid should be given internally, as the

hemorrhages may cease, and the pain, swelling and congestion decrease. Possibly the growth may be retarded or cured, as a case of recurrent cancer of the breast was apparently cured by continuing extract of thyroid for eighteen months.

(7) In *frequent abortion*, thyroid treatment is especially indicated. When a case of abortion is seen early and thyroid given, the flow is stopped and the impregnated ovum is retained. Thus, in sterility from frequent abortions such women have been able to have children after years of sterility.

(8) *Uterine fibromata* and *myomata* are favorably influenced by thyroid, by lessening the blood supply to the pelvis, stopping bleeding and pain, and relieving fulness of abdomen. In some the tumors are reduced considerably in size, in others the growth is arrested, and in most the general health is improved. If thyroid causes too much gastric irritation, it should be discontinued. When dose is pushed to maximum and is long continued, thyroidism is produced; i.e., tachycardia, restlessness, sleeplessness, and indigestion, and unless the remedy is stopped the general health is apt to suffer. After discontinuing thyroid, by ordering ergot the good effects are sometimes maintained. After stopping thyroid in about 20 per cent. of cases, the fibroids frequently begin to grow again, increasing much in size. Thyroidism in some cases is due not so much to the large doses and continued use of remedy, but to poisoning from animal decomposition. Therefore, the physician should be sure that the preparation used is pure and fresh.

(9) Thyroid extract is useful in *uterine hyperplasia*, and *subinvolution*, to reduce size, sensibility, and congestion of the uterus.

(10) As a *galactagogue*, whenever the secretion of milk is diminished.

(11) In *chronic ovarian* and *tubal disease*, by lessening blood supply and relieving pain.

In passing, I may state that another animal extract, that from the *parotid* gland, has been used in uterine and ovarian disease, etc., in addition to the routine treatment with ichthyol tampons, iodine, and hot douches, and is said to have relieved symptoms and improved the local pathological conditions. It seems to the writer, after most careful consideration, that no special relation exists between the parotid gland and the ovaries and uterus, and, furthermore, any good results that were produced in the reported cases were due in all proba-

bility to the hot douches and ichthyol, which is very valuable in inflammation wherever located.

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[Written for MERCK'S ARCHIVES]

IRON IN ANEMIA

By W. C. Cooper, M.D., of Cleves, Ohio

Editor *Medical Gleaner*

FIRST, I want to apologize to the readers of this journal in behalf of my friend, Dr. Aylsworth.* He is really too large a man to have *actually* fallen into partisan acerbity, and to have made a fling at my literary style, and to have connected the idea of notoriety with my ambitions. To take him seriously in this phase of his latest utterance in the ARCHIVES, is to do him injustice.

Dr. Aylsworth has treated a case of anemia with a compound containing iron. He did this under test conditions and got a favorable result. I have tested iron in 500 cases, and I have treated 1,000 similar cases without iron. The result has been to convince me that the iron has nothing to do with the cure. I have made a study of iron for thirty years, and I beseech you, brethren, to believe me to have been honest and conscientious in my investigations, as I gladly concede that you are. Despite my "attenuated logic and polysyllabic attacks," I submit that my 1,500 experiences ought to have as much value as the *one* experience of Dr. Aylsworth has.¹ The report of this one case is all the argument the doctor advances, excepting this: "It is beyond conception that in the many preparations having iron as a constant ingredient, there should be found in each an ingredient able to increase the number of red-blood corpuscles, and iron not that ingredient."

Iron is iron whatever may be its associations, that is true. This being true (and it being true that iron is the single agent that

does the work), what excuse is there for more than *one* iron preparation?² Why does every doctor have his *pet* iron preparation?³ Why have several iron plants, after having given the profession a ferruginous fanfare, later explained that they have added other ingredients to their preparations "which greatly increase their efficiency"?⁴ Why do the virtues of the various iron preparations vary evenly with the virtues of the drugs associated with the iron? These questions are respectfully submitted.

While I, personally, do not believe that iron possesses any other medicinal quality than astringency, I acknowledge with emprossment that I may be badly mistaken. It may possess a power of catalytic, or dynamic impression of which I am not even capable of dreaming. It may even be a fact that its excellence as a chemical "back-stop" justifies its therapeutic use. It *may* be that it has a perturbing power with reference to some nerve center which makes it helpful in anemia, though, to me, this is inconceivable, since, in my hands, it has never demonstrated such a fact. The single thing I insist on is that *neither iron nor any other drug is assimilable*.⁵ Nature spent untold millions of years in adapting the vegetable, and then the animal, to its environment. She accurately fitted food products and *assimilative limits* to each other. She did *not* fit to the assimilative apparatus any *artificial* product. Therefore, no combination of elements which was not wrought out in Nature's laboratory, is a food.⁶ None of our chemical preparations of iron, lime, phosphorus, etc., exist in nature,⁷ and they are *not* assimilable. *This* is what I insist upon.

A belief in direct tissue-feeding leads away from causal treatment, and leads into direct symptom treatment; it leads into that shallowness which construes a disease-effect to be the disease itself. This construction makes iron the remedy for at least thirty entirely different maladies, since anemia is one of the symptomatic outputs of at least that many different diseases. Gentlemen, is not modern therapeutics *disgraced* by such a tenet?⁸ With deference to all other relations, I leave the question with you.

I promised to make this article brief, and I will therefore add only a few more words. In connection with all the foregoing, my contention is for the axiomship of the proposition: *Food is food and medicine is medicine*. Unless there is a difference between food and drugs, one of the terms is philologically redundant. That this is not the case, is made evident by our inability to get

* See ARCHIVES for June, p. 256. Dr. Cooper is of the impression that Dr. Aylsworth's communication was directed specifically at him. We regret this assumption, believing that the communication was directed against the opponents of "iron in anemia" in general. The small figures in the text have reference to succeeding comments by the Editor of MERCK'S ARCHIVES.

along without them. Being different, they fall into different classifications, whence it follows that the proposition is an axiom.⁹ The difference between food and medicine is this: Food nourishes and sustains the body; medicine does exactly the opposite. *Upon the latter fact* depends our *sole justification* for the use of drugs.¹⁰ This can be made as plain as A, B, C, but my space is about exhausted, and I will not draw further upon the editor's good nature.

COMMENTS BY THE EDITOR.

(1) Would it not be fair to assume that Dr. Aylsworth presents his one case merely as an illustration, and not as the sum-total of his experience with iron in anemia?

(2) Why have several preparations of bismuth, several salts of quinine, several combinations of iodine, etc.? Is bismuth inefficient because we have the subnitrate, the subcarbonate, the subgallate, the salicylate, the citrate, etc.? Is quinine inefficient in malaria because it is used by the profession in a number of various combinations, official and non-official?

(3) Why does every doctor have his pet laxative, his pet tonic, his pet hypnotic, etc.? Do such arguments in any way invalidate the medicinal virtue of those classes of remedies?

(4) We sometimes prescribe strophanthus and digitalis together. Does the addition of strophanthus signify that digitalis has no value? Similarly, why add arsenic or methylene blue to quinine in our anti-malarial prescriptions? The efficiency of the quinine is increased, that's all. It does not mean that the quinine has no antiperiodic value; if this were the case we would omit it altogether. And when we add arsenic and strychnine to our iron, we thereby do not negative the therapeutic value of the latter. We simply enforce it, as we have a perfect right to do.

(5) Now we are coming closer to one another. As long as it is admitted that iron may be useful in anemia, we are satisfied. The rationale of its action—whether it is directly assimilated, or whether it acts only as a stimulant to the hematopoietic organs, etc.—is to us of little importance, as we stated in one of our former editorials.

(6) The question of Nature versus the chemical laboratory is a very large one and a very fascinating one. We cannot enter into it in detail in this place, but we will ask our esteemed contributor one or two questions. Isn't he aware that the sodium chloride which we add artificially to our food is assimilated, and that it serves in

great part as the source of hydrochloric acid in the stomach? And if sodium chloride is useful, why cannot other chemicals be? Where are we to draw the line? Isn't calcium carbonate or chalk a *natural* chemical? It certainly exists in nature in immense quantities, and nature spent, oh, what a number of years, in elaborating it! And how about the *natural* ferruginous mineral waters? Is their iron absorbed?

(7) We have seen, but a moment ago, that chemical preparations of iron, lime, etc., do exist in nature.

(8) With the best of will, we cannot see it in this light. We think we are very open to argument, but we cannot see why the administration of iron in anemia or lime salts in rickets, is a disgrace to therapeutics, if the clinical results obtained are satisfactory.

(9) While food is food and medicine is medicine, this statement is far from being an axiom. While none would experience any difficulty in properly classifying beef-steak and strychnine, there are substances with reference to which the classification is not by any means easy, and there are also substances which partake of the nature of both medicine and food. As a most excellent example of such a substance there occurs to our minds that modest animal product, gelatin. The doctor will not deny that this is a true food possessing well-established nutritive properties; but it also possesses very decided hemostatic properties, and when we inject a solution of it subcutaneously, in pulmonary or uterine hemorrhage, we do not use it as a food, but as a medicine. The fact is well known that nature abhors sudden jumps and leaps; everywhere there is gradual transition: from one genus to another, from one class to another, from one kingdom to another. There is no difficulty in stating the differences between a cow and a tree, but the doctor well knows that when we come to the lower forms of life, our best scientists are sometimes unable to tell whether the substance belongs to the vegetable or animal kingdoms.

(10) The doctor says that "food nourishes and sustains the body." This is correct. But few of our readers, we fear, would agree with his next statement, that medicine does exactly the opposite. Exactly the opposite of nourish and sustain is *deplete* and *depress*, and there would rarely be *justification* for the use of medicines if their only power consisted in depleting the body and depressing vitality.

In conclusion, we would say that while we do not find ourselves in accord with

Dr. Cooper on many points, his writings always make interesting reading, and as an able, honest and conscientious seeker after the truth his utterances are always entitled to respectful consideration.

[Written for MERCK'S ARCHIVES]

THE KOREAN PHARMACOPŒIA. ACCOUNT OF SOME OF THE QUEER INSECT AND VERMIN DRUGS OF KOREA

By L. Lodian, C. E., New York

THE writer's sojourn in Korea was limited to one week—taking in that territory en route to Siberia from Japan.

A week in Korea is not sufficient to enable one to pen an article on the native drug-trade, so, in the present article, I propose to make use of somebody else's brains, with due credit, of course. There was published at Seoul, the capital of Korea, during the years 1895-98, a little monthly magazine entitled the *Korean Repository*. It had a circulation of about 500 among the limited English-speaking groups of Korea, Japan, and some China ports. The articles were all contributed free, the editors gave their time free, sympathizers gave paper-stock, etc., free—and yet the magazine did not pay. So it sang its own dirge with the issue of December, 1898.

But many of the labor-of-love articles in the *Repository* were unique, inasmuch as they are the only intelligent data extant of affairs medical and chemical in Korea. I refer to the papers by an American practitioner formerly resident in (and who died in) Korea—the late Dr. Landis. He translated and published in the *China Review* the Korean official medical text-book, known as (or best translated as) the "Mirror of Eastern Medicine." After that followed his translation of the Korean Pharmacopœia, which appeared in the *Repository* of December, 1898.

I will now proceed to make some extracts. They are curious and interesting, and sometimes the reading is quaint, but I would remind the reader that the extracts are faithful ones, and their author (Dr. Landis) obtained them from the official Korean work. Those of the "white-peril infidels" who are skeptical, can refer to the work right here in Manhattan, since a copy is preserved at our public library on Lafayette place.

SOME EXTRACTS FROM THE KOREAN OFFICIAL PHARMACOPŒIA

Wood-lice (Oniscus).—This creature is found in all damp places, beneath tiles, stones, etc. They should be gathered on the fifth day of the fifth month, and carefully

dried. The nature of the medicine is warm, although some authorities assert it is slightly cold [sic]. The taste is salt, and it is non-poisonous, although some authorities assert that it is slightly so. It is used for asthenia, difficult micturition, and amenorrhea. It causes abortion.

Human Lice (Pediculus).—If 300 or 400 of the black species of pediculi be pounded up into a mass, and applied to scalp wounds, such wounds will heal rapidly. This mass can also be applied with profit to ulcers, or abscesses of the forehead.

These leave the body of a dying man. To tell whether an invalid will recover or not, place some of these insects before him. If the lice go to the chest of the invalid, he will recover; but if they go to his back, he will die.

Tape-worm (Tænia).—Only tape-worms which are vomited are used, and not those which are passed per rectum. These worms are carefully collected, dried, and reduced to powder. The nature of this powder is very cold. If a few drops of a solution of it be applied to inflamed or painful eyes, it will exert a soothing influence at once.

Scorpions.—These are imported from China for medicinal purposes. The small ones are the best, and for medicine they can be caught at any season. Formerly these creatures were found within the palace enclosure [at Seoul], but these were carefully killed, to be used for medicine, and now there are none found in all Korea. The entire body is used in medicine, but the tail which contains the sting is the best for this use. The sting is very poisonous. When prepared for use, the insect should be washed thoroughly and roasted. The nature is tranquilizing, the taste both sweet and bitter, and it is decidedly poisonous. It is used for all forms of paralysis, or partial paralysis, and for convulsions in children.

The Dragon Fly (Libellula).—These insects are fond of flying about near ponds and streams of water. They should be caught during the fifth or sixth month and dried. There are several varieties, but those of an azure color, with large eyes, are the best for medicine.

The nature of this drug is slightly cold, although some authorities assert that it is only cool. It is non-poisonous. It is used as a tonic to the active principle of the human body.

The Giant Devil Fish (Species of Octopus).—This is found in the east and northern seas. Its nature is tranquilizing, its taste sweet, and it is non-poisonous.

A Species of Octopus.—This species is found along the seashore everywhere. It resembles the giant octopus in all respects, excepting size. Its nature is tranquilizing, its taste sweet, and it is non-poisonous.

Earthworms (Lumbricus Terrestris; also called the Earth Dragon).—Those worms with white necks are the oldest, and serve best for medicinal purposes. They should be placed in a jar for three months, during which time they will become quite dry. The earth should be separated from the skin and discarded. The skin and fleshy part should be reduced to powder with the aid of slight heat.

The nature of this medicine is cold, and the taste saltish. It is non-poisonous, although some authorities assert that it possesses slightly poisonous properties. It is used for the three kinds of worms, for angry wounds, thermal fever, and for madness. Also for jaundice, for ulcerated throats, and for serpent bites. It neutralizes the virus of serpents, and the poisons of sects [sic; probably insects].

Earth Dragon Juice.—Live worms may be taken, the earth discarded, and the insect steeped in salt water for a short time, when the flesh will entirely dissolve. Worms which have been trodden under foot by travelers may also be used. They should be dried by the aid of heat. Their nature is cold, and they are used for high fevers.

Hornets' Nests.—These are found in the forests as well as near the houses of the people. For medicine, those nests found on the hills are the best. They should be collected from the seventh day of the seventh moon, until the eleventh or twelfth moon; boiled, dried, and reduced to powder. The nests of ground-wasps are also used in medicine for the cure of forming abscesses.

Hornets' nests are tranquilizing in nature, have an acrid, saltish taste, and are non-poisonous, although some authorities assert that they possess slightly poisonous properties. They are used for convulsions, for abscesses, for toothache, and for evil ulcers of all kinds.

The Dung Beetle (Ateuchus).—[There is another genus, *Geotrupes*, which the Pharmacopœia asserts is the same insect; but, with the vague scientific ideas which the Orientals possess, they confound the two genera.—Compiler's note]. These beetles are found everywhere, taking a delight in burrowing into the feces of men, oxen, or horses, which they mold into the form of a ball and roll away. The large species have a divided nose and head (this is still another genus), and this is the best

one for use in medicine. For medical purposes they should be gathered on the fifth day of the fifth moon, the feet and elytra discarded, and the insect roasted or boiled. The species with a high nose and deeply sunken eyes is the best for medicine.

The nature of this medicine is cold, the taste salt, and it possesses poisonous properties. It is used for chills and fever, and convulsions in children; and for insanity, mania, and tremor capitis in adults.

Cockchafers (Melolonthæ).—These are found in plenty about decaying vegetable matter. When laying on their backs, they are capable of locomotion, and when on their feet, they move with wonderful rapidity. Those which are found on the mulberry and willow trees, are of a pure white color, are best for use in medicine. They can be gathered at any time, and after being dried in the shade, should be heated with rice or glutinous rice. Before preparing them for use in medicine, the dust and dirt should be carefully brushed off the back of the insect. Those which are not able to crawl on their backs are not true cockchafer grubs.

The nature of this medicine is slightly cold, the taste salt, and it possesses poisonous properties. It is used for extravasations of blood, for rheumatism, for cataract, for corneal opacity, for fractures and sprains, for wounds caused by edged weapons, and for increasing the secretion of milk.

The Centipede (Scolopendra Morsitas; also called the heavenly dragon).—This is so called in contradistinction to the earthworm, which is called the earth dragon. This creature is found in large numbers beneath stones, or masses of decaying vegetable matter.

The Common Garden Slug.—This is just like a snail, but without the shell. It has two horns, and is found in great numbers after a rain in damp places. In its properties and uses it resembles the snail.

The Common Garden Snail (Helix).—This is described as a garden slug which carries its shell on its back. For medicine, it should be collected during the eighth month. The larger ones are the best. They carry their shell on their back, and, when frightened, withdraw into it. Some varieties have four horns, and others two.

The nature of these is cold, although some authorities assert that they are only slightly cool. Their taste is salt, and they are slightly poisonous. They are used for lameness, rectal prolapse, convulsions, and thirst. Two other kinds of snails are indicated: "one used for rectal prolapse, mixed

with lard"; and a fresh-water species, to "reduce fever, quench thirst, aid the liver, reduce inflammation of the eyes, soothe the pain of ulcers, aid the secretion of urine, and loosen obstructions of the bowels; also to sober drunkenness."

Flies (Gadflies; Tabanidas).—Used for extravasations of blood, for loosening obstructions of the bowels, and as a tonic to the circulation.

Fire Flies (Fulgora).—Used for blindness (when the iris is uninjured), for blood-poisoning, for demoniacal possession, and for strengthening the memory. [Also about a page devoted to other varieties].

Caterpillars (Chrysalis).—These are quite numerous on the branches of trees, and resemble sparrows' eggs, but are striped red and white. They should be collected in the eighth month and boiled.

This medicine has a tranquilizing nature and a sweet taste. It is a remedy for convulsions, and all general diseases of children.

Bcd Bugs (Cimex Lectularius).—These have the odor and taste of bitter almonds, and are sometimes nicknamed (on account of their big size) Asiatic strawberries. Cats devour them with avidity. They are good for the itch, insomnia, profane and ill-tempered persons.

Silkworms.—Only those worms which die a natural death are used. These all turn white, hence their name. They should be gathered during the fourth moon, and not kept in a moist place, or they develop poisonous properties. They should be washed in water from glutinous rice, the froth which comes from their mouth discarded, and the insect fried in a decoction of ginger. This drug has a tranquilizing nature, and a salt and bitter taste. It is non-poisonous, "although some authorities assert," etc.

It is used for convulsions in children, for the three kinds of worms, for moles, scars, numbness of the skin, and for flooding in women.

Other Silkworm Products.—The chrysalis is for emaciation, the eggshells for female complaints; the exuvia for numbness and borborygmus; the silk threads, by which the cocoons are fastened, for the five kinds of hemorrhoids, for rectal hemorrhage, for difficult labor, and for retained placenta.

Mosquitoes.—Mosquitoes are collected in large quantities, but there is a scarcity of them in some regions. All kinds are efficient. Fried and powdered, they are preventives of malaria, dysentery (bloody flux), ill humors, and induce increased ac-

tivity; also for whites, boils, sudden irritation of the skin, and fits of anger.

Crickets (Grylotalpa).—Such insects as are caught just as they come out of the ground at night are the best for medicinal purposes. They should be gathered after the summer solstice, and carefully dried with the aid of little heat. The action of the drug is cooling. The taste is saltish: non-poisonous. The anterior portion of the insect is used for polyuria and diarrhea; while the posterior part is used for retention of urine, and for constipation. The drug is also used for difficult labor, for bringing boils to a head, for hiccup, for bed ulcers, and for watery sores.

Crickets' Brains.—This, if applied to such punctured wounds as have been caused by a wooden weapon, will cause them to heal, and it will also cause splinters of wood to come to the surface.

Coal Dust.—Pulverized to an impalpable powder, used in flatulency, foul breath; as an aid to digestion; in dysentery; and the various ills of the bowels and stomach.

Shells.—[There is a long array of different powdered-shell remedies, queer enough to warrant a separate article for a later issue. I may return to the subject at another date.—Compiler's note.]

REMARKS

The Korean Pharmacopœia contains various common substances found in the western-world official books, but with queer expressions of ideas, as to the action and uses thereof. Take, for instance, such a homely commodity as honey: "It quiets the five viscera, acts as a tonic to the system, eases pain, is an antidote for various poisonous substances, calms the temper, cures ulcers of the mouth and gum-boils, and makes the vision bright and the hearing acute."

In a future article, I may dwell on the spider remedies, the dried leeches, powdered wasps, and other oddities of the Korean Pharmacopœia; also the Oriental medical virtues of ox-urine, cowfart, and semen.

Korea is an independent country in eastern Asia, Siberia bordering on the north, China on the west, and the Pacific Ocean on the east. Seoul, or Seoul, the capital, has a quarter of a million inhabitants. There are a few foreign druggists in the country. Here are a couple of names: H. G. Apenzelt, Seoul; G. Heber Jones, Seoul; also a lone Anglo-Russian nondescript, Stefan Garfield, formerly with the Tamojnia (custom-house), Petersburg, Russia, whom I met at Vladivostok, and later at Nikolski, Siberia.

THE MODERN REMEDIES OF OPHTHALMOLOGY¹

By Sydney Stephenson, M.B., F.R.C.S.E.

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THE author gives a pretty thorough review of modern ocular remedies. He classifies the modern remedies used in eye-work as follows: (1) Antiseptics. (2) Mydriatics. (3) Myotics. (4) Anesthetics. (5) Analgesics. (6) Vaso-constrictors. (7) Miscellaneous.

1. ANTISEPTICS

Until the last few years, one antiseptic stood out above all others in the treatment of infectious diseases of the eye, especially in those of the conjunctiva—namely, silver nitrate. This was once applied as a solid stick, pure or mitigated with potassium nitrate, but more recently the 2-per-cent. aqueous solution has been preferred by most ophthalmic surgeons. The chief value of this was, as applied directly to the conjunctiva, in such maladies as gonorrheal ophthalmia, Koch-Weeks' conjunctivitis, and trachoma of a more or less acute nature. In a word, its great use was in secretory affections of the conjunctiva. It was and is, without any question, a most valuable remedy. Its drawbacks, nevertheless, are many, and of some consequence. Briefly, they are (a) the pain caused by the application; (b) the tendency to produce eschars of the conjunctiva, particularly when the solid form is applied; (c) its tendency to combine with albumen, so as to prevent penetration into the tissues; and (d) the tendency after several weeks' use to cause an indelible discoloration of the conjunctiva.

The aim of the modern chemist has been to produce some agent which should have the antiseptic and astringent properties of silver nitrate without its drawbacks. The list of substitutes is now a long one, and includes protargol, silberol, argentamine, ichthargan, actol, itrol, argentol, collargol, argonin, nargol, and largin. The author selects for description the first and the last on the foregoing list—that is, protargol and largin—with both of which he has had considerable practical experience.

Protargol contains about 8 per cent. of silver combined with protein, and is a grayish powder readily soluble in water. The author has found it useful in a 10-per-cent. ointment in the treatment of ulcerative blepharitis, applied to the lids at night after all scales and scabs have been removed by

washing with a warm saturated solution either of borax or of boric acid. In his experience, it is useless in the dry form of disease, so often found along with seborrhea of the scalp and other parts of the body. In very old cases, where the edge of the lid is red and thickened, and the lashes mostly destroyed, there is an excellent method of treatment that goes under the name of "savonnage," for a knowledge of which we have to thank Dr. A. Darier, of Paris. It consists in rubbing the diseased parts energetically for some minutes, twice a day, with a piece of wool or a brush soaked in a 50-per-cent. solution of protargol. Great service is rendered by protargol in the treatment of the common form of ophthalmia neonatorum, due to the gonococcus of Neisser. The strength employed is 50 per cent., and this is painted over the palpebral conjunctiva, exposed by everting the eyelids. It may be used twice in the twenty-four hours in bad cases. Before applying the medicament, care must be taken to remove every trace of purulent discharge, which would otherwise prevent the protargol from acting properly upon the mucous membrane. In addition, the eyes must be kept very clean by the frequent use of any of the following lotions: (a) Hydrargyri bichlor., 1:4000 or 1:5000; (b) Hydrargyri cyanidum, 1:200; or (c) a saturated solution of boric acid. The application of protargol, so far as he could judge, is painless, never produces conjunctival eschars, may be employed when the cornea is ulcerated, and, lastly, has yielded results as good as those obtained by a 2-per-cent. solution of silver nitrate. It shares, however, a disadvantage common to every preparation of silver with which the author is acquainted, viz., that if applied for more than a few weeks (which is seldom necessary in ophthalmia neonatorum) the conjunctiva is liable to become stained, the so-called "argyrosis conjunctivæ." This peculiar condition is caused by the deposition in the lymph-spaces of the tissues of minute particles, probably of a silver albuminate.

Largin contains 11 per cent. of silver combined with an albuminoid protalbin, and, like protargol, is a synthetic product. It occurs as a stone-colored, rather granular powder, soluble in water to about 10 per cent. The author has employed largin on an extensive scale, and he recommends a 10-per-cent. solution as a specific in acute catarrhal ophthalmia due to the tiny Koch-Weeks' bacillus—"pink-eye." It should be painted once a day over the palpebral conjunctiva, freely exposed by everting the

¹ *Med. Brief*, xxx, No. 6.

eyelids. He believes, however, that largin is even more prone to stain the eyelids than the other preparations of silver.

The following are the author's conclusions with respect to the use of silver in eye diseases: The best general remedy in acute ophthalmia, almost irrespective of cause, is a 2-per-cent. solution of silver nitrate, despite its limitation and drawbacks. The latter can, to a large extent, be minimized in the hands of one who has had some little experience of this method of treatment. A 50-per-cent. solution of protargol succeeds equally well, or even better, in gonorrheal ophthalmia, while in the so-called "pink-eye" a 10-per-cent. solution of largin is most efficacious, and deserves to be called a specific. Before any of these remedies are applied to the conjunctiva, remember to (a) evert the lids, upper and lower, fully; (b) remove all secretion by wiping with dampened cotton-wool, or by using a drop of hydrogen peroxide, which immediately decomposes the discharges with an evolution of gas; and (c) give the silver ten to thirty seconds to act.

Formaldehyde Solution.—This has been widely used in surgery and pathology. Much diluted, it has been widely used in ophthalmology, since it possesses astringent and antiseptic properties. The 1:2000 or 1:3000 dilution may be employed in the same way, and in the same cases as we now use boric acid, corrosive sublimate, or mercury-cyanide lotion—that is to say, in the various secretory and infectious maladies of the conjunctiva and tear-passages. The application, as a rule, is well borne, but in some cases it produces a slight slough of the ocular conjunctiva near the junction of the latter with the palpebral conjunctiva. Moreover, in sensitive persons it may cause considerable pain. These facts are practically important, and tend to limit the use of formaldehyde in eye-work.

Mercuriol.—This brownish powder is an organic compound of mercury with nuclein, which appears to possess antiseptic and sedative properties. As a dusting powder for phlyctenule of the conjunctiva and cornea the author has employed it with marked success. Its application is painless. Mercuriol will repay further investigation on the lines indicated.

Cuprol.—This is another remedy belonging to the same class, and is a compound of copper of nucleic acid. It has been recommended as a substitute for the copper stick in the treatment of trachoma (granular lids), but a tolerably wide experience has convinced the author that it presents no obvious advantages over the more an-

cient remedy. Indeed, he has known it to set up considerable irritation when dusted over the palpebral conjunctiva.

II. MYDRIATICS

Two new mydriatics, mydrine and euphthalmine, are destined to render great help in practical eye-work. It has long been the dream of the ophthalmic surgeon to find some agent which shall be capable of dilating the pupil without, at the same time, paralyzing the accommodation, and thereby affecting the patient's sight. The first step forward was to substitute the quickly acting homatropine for the slowly acting atropine. The effects of the former generally passed away in twenty-four hours at the most, while those of the latter not infrequently lasted for a fortnight. But more was wanted than this. Theoretically, there was nothing unreasonable in hoping to find the ideal mydriatic, since the toxin of some diseases—*e.g.*, diphtheria—was able to produce in a given case paralysis of the pupil only, and in another paralysis of accommodation.

Mydrine.—This white powder, which is readily soluble in water, is composed of ephedrine and homatropine hydrochlorates. A 10-per-cent. aqueous solution dropped into the eye dilates the pupil moderately within a few minutes, and produces little effect upon the accommodation. Its effects pass away in six or eight hours. The transverse diameter in twenty of the author's patients measured 6 Mm. The pupil, even when expanded by mydrine, still retains some action to light. The only effect he has ever been able to demonstrate as regards sight was the recession of the near-point (when carefully tested with the hair optometer) a few Cm. from the eye. Solutions of mydrine are peculiar in that, without any added preservative, fungi do not develop in them.

Euphthalmine.—This agent is a mandelic-acid derivative, and chemically rejoices in the name of *n*-methyl-vinyl-diacetone-alkamine. The hydrochlorate occurs as a white, crystalline powder, soluble in water. It is generally used as a 4- or 5-per-cent. solution. It causes, when dropped into the eye, no discomfort, and may be said to act much in the same way as mydrine. The pupil becomes dilated thirty minutes or so after it has been applied. It acts very slightly upon accommodation, but the disturbance of sight is always so trivial as to cause no serious inconvenience to the patient. Its effects, as a rule, do not pass off for several hours, but as the drug gives rise to no untoward sensations, that matters little.

If desired to dilate the pupil merely for

the purpose of carefully examining the fundus oculi, one or other of the foregoing agents is used. On the other hand, homatropine, and still more so, atropine, must be reserved for cases where a particular estimate of refraction must be made.

III. MYOTICS

Arecoline.—Arecoline hydrobrom., one of the alkaloids of the betel nut, has been praised as a myotic, used as a 1- to 5-per-cent. solution. According to Maximow's experiments, this remedy brought down the intra-ocular tension in glaucomatous eyes, as estimated by the Maklakow tonometer, from 55 Mm. to 13 Mm. of mercury. It was found quickly to mitigate the glaucomatous pains. All indications seem to point in the direction of arecoline proving to be a trustworthy substitute for physostigmine and pilocarpine in the various forms of glaucoma.

IV. ANESTHETICS

In eye-work, a 2-per-cent. watery solution of the cocaine hydrochlorate still retains its pre-eminent place as the local anesthetic, although numerous attempts have been made to replace it by other medicaments. The chief substitutes proposed have been eucaine, anesin, tropacocaine, holocaine, nirvanin, and orthoform. Extended experience in many parts of the world appears to have shown that few of them are equal to cocaine, while some are infinitely inferior. A few words, however, may be devoted to holocaine and to orthoform.

Holocaine.—The several advantages possessed by this substance may conveniently be summarized as follows: (a) It does not dilate the pupil or affect accommodation; (b) it is an excellent and quickly acting local anesthetic; (c) it is stated not to affect the corneal epithelium injuriously; (d) it possesses bactericidal properties; and (e) it is very readily absorbed by the inflamed conjunctiva. The alkaloid itself is insoluble, and we accordingly use a 1-per-cent. solution of the hydrochlorate, of which 1 part is soluble in 75 parts of water. The practical disadvantage of holocaine is that, owing to its toxic properties, it can not well be used for injection, as is sometimes necessary in operations about the eyelids. Moreover, bleeding is said to occur more freely under holocaine than cocaine, but this last objection can now be largely discounted by the simultaneous use of suprarenal gland.

Orthoform.—This substance has been recommended as a 5- to 12-per-cent. ointment for the purpose of relieving pain in cases where cocaine fails.

Acain.—A word should, perhaps, be

added in this place with respect to acain, a white powder, soluble in water, that has been praised as a local anesthetic. Its chief use, however, is to render sub-conjunctival injections painless, or nearly so. By adding a few drops of a 1-per-cent. solution of acain to an injection of mercury cyanide, sodium chloride, or what not, scarcely any discomfort will be experienced by the patient.

We may sum up our experience of ocular anesthetics by saying that in careful and competent hands, cocaine is still our most trustworthy agent. Additional knowledge of holocaine may show us that in some points it has advantages over cocaine.

V. ANALGESICS

It is a well-known fact that cocaine is powerless to deaden the severe pain often associated with deep-seated affections of the eye, such as iritis, irido-cyclitis, or glaucoma. Hence, in such cases a surgeon generally resorts to the administration of general analgesics, as, for example, phenazone, phenacetin, and above all, to the subcutaneous injection of morphine. But recently attempts have been made to find some agent that will act as a trustworthy local analgesic, and we now count a very remarkable substance, known as dionin, as a member of this class.

Dionin.—This white, crystalline powder, soluble in water, is the hydrochlorate of ethyl-morphine. It is not a local anesthetic like cocaine, but a true analgesic in the sense that, without impairing the sensitiveness of the eyeball to touch, it yet calms any pain that may be present in the eye. It may be applied as a powder to the eye, but that plan has obvious disadvantages. It is best used as a 5-per-cent. aqueous solution. When this liquid is dropped into the eye, it tends to produce a curious condition of edema of the ocular conjunctiva (chemosis), and the eyelids may even become swollen. This reaction is much more pronounced in some subjects than in others, and is especially marked in tuberculous persons, and in those whose heart, vessels, or kidneys are unsound. Soon after the appearance of the chemosis, relief is generally obtained from any pain that may exist in the eye. Dionin has marked vaso-dilator properties.

VI. VASO-CONSTRICTORS

Suprarenal Capsule.—Since Dr. Bates, of New York, published an account of his investigations with suprarenal capsule, that agent has enjoyed considerable vogue among ophthalmic surgeons. The initial difficulty was one of preserving the extract,

which was best done by inclosing small quantities in sealed glass tubes. But since the active principle, *adrenalin*, has been introduced, a great barrier to the extensive use of suprarenal has been removed. A 1:1000 solution in normal saline, with a trace of preservative chlorotone, is now upon the market, and can be obtained without difficulty. When a little of this substance is applied to the conjunctival sac the mucous membrane becomes pale and anemic, and there is even experimental evidence to show that the same action is exerted upon the vessels of the iris and ciliary body by absorption through the conjunctiva and cornea. Wessely showed this in a way as pretty as it was conclusive. It should be explained that if fluorescein, a coal-tar derivative, be injected into the systemic veins, it will pass through the pupillary aperture in about ten minutes, and color the aqueous humor deeply. Now let the suprarenal be applied to one, but not to the other eye, and then inject fluorescein into the veins. We shall find that in the medicated eye the aqueous does not become colored for perhaps an hour, whereas that occurs in the usual time in the other eye. If the two eyes are next exercised and examined with the microscope, a few greenish streaks merely are found in the ciliary body of the eye to which suprarenal was applied, while in the second eye that anatomical structure is simply gorged with the fluorescein. This experiment clearly proves that the production of the aqueous humor is notably lessened in the adrenalized eye, which can only come from a contraction of the vessels of the ciliary body, the secretory organ of that fluid. To resume: the effects of adrenalin are especially striking when it is applied to an inflamed eye, for the surface of the globe becomes much paler or even quite white.

Adrenalin is of service in ophthalmology in two distinct ways: (a) before operations; (b) in certain diseases of the eye. We avail ourselves of its vaso-constrictor powers, prior to operation, combined with cocaine. We may use the following solution, which is to be dropped into the conjunctival sac three or four times before any cutting operation upon the eye, as squint or cataract extraction: Cocaine hydrochlorate, 8 grn.; adrenalin chloride, 1:2000 solution, 4 drams. The use of the combined solution prevents bleeding, and even renders oozing uncommon. It has been said, perhaps with truth, that its employment may be followed later by reactionary hemorrhage, which may assume alarming proportions. The author has had no personal experience of any such disaster.

The diseases in which adrenalin has so far rendered service are: Phlyctenular conjunctivitis and keratitis, iritis, interstitial keratitis, spring catarrh, and glaucoma. The author has found it specially valuable in large and vascular conjunctival phlyctenule, which under its influence are often cured in two or three days. In iritis this formula is employed: Atropine sulphate, 1 grn.; adrenalin chloride, 1:2000, 4 drams. The same formula may be used three or four times a day, in the earlier, irritative stages of interstitial keratitis, along with specific treatment with mercurials (preferably injected subcutaneously, or, rather, intramuscularly). In glaucoma of chronic type the author combines physostigmine, or pilocarpine, or arecoline with the 1:2000 adrenalin-chloride solution.

VII. MISCELLANEOUS

Fluorescein.—In fluorescein, a yellow-red crystalline powder, derived from resorcin, we have a useful diagnostic agent, the value of which is now recognized in every part of the world. It is scarcely a new substance, inasmuch as it was recommended by Straub in the year 1888. Fluorescein possesses the peculiar property, when an alkaline solution of it is dropped into the eye, of staining a grass-green hue any spot on the cornea denuded of its epithelium. The intact cornea is not affected. Moreover, thus applied, fluorescein will do two other things. One of them is to stain yellowish-green any secretion that may be present in the conjunctival sac; the other, to pass down the nasal duct and to show at the nostril when the passages are free from obstruction. The test solution contains fluorescein, 2 parts; sodium bicarbonate, 3 parts; distilled water, 100 parts. Uranin—that is, sodium-fluorescein—is soluble in water, and is put up in the form of tabloids, which are very convenient.

It has lately been pointed out by Bihler and Hippel that fluorescein has further uses in eye-work, since by repeated instillations it is capable of passing through the cornea and so reaching the aqueous humor. The latter can, under those circumstances, stain lesions of parenchymatous keratitis and of which lie at the back of the cornea, even although the anterior epithelium is intact, structurally and functionally. The earlier lesions of parenchymatous keratitis, and of sympathetic ophthalmitis may thus be rendered visible at a time when it might otherwise be difficult or impossible to detect them. Finally, it is important to bear in mind that before applying fluorescein to an eye, a little 2-per-cent. cocaine, or 1-per-

cent. holocaine, should be instilled, since penetration is thereby facilitated. Before examining the eye, it should be washed out with a saturated solution of boric acid.

THERAPEUTIC USES OF THE ORGANIC EXTRACTS¹

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As I firmly believe that the minute secretions of the internal ductless glands have much to do with the so-called functional diseases and can modify the course of acute and chronic disease, we not only can afford frequently to discuss the subject, but cannot afford to ignore it. I will therefore present what to me seems the proved therapeutic value of preparations of the ductless glands, and also suggest a few unproved therapeutic indications.

Before seeking for rational uses of the organic extracts, we must understand the physiology of the glands from which the extracts are made. In certain instances we now do understand such physiology more or less completely. The therapeutic uses of the other organic extracts are certainly more or less experimental, although many a truth has been learned empirically.

In discussions on organo-therapy it always seems best first to take up the gland of which we know the most, namely, the *thyroid*. The physiological action of the thyroid is so well understood that we are hardly justified in describing it, but I may be pardoned if I state my understanding of it. The secretion from this gland by its vaso-dilating component regulates the peripheral circulation and hence the ratio of heat loss through the insensible perspiration, disturbance of which function showing, on the one hand, in the drying of the skin in undersecretion, or myxedema, and, on the other hand, in the profuse sweating of hypersecretion or Graves' thyroid disease. This vaso-dilating element also undoubtedly has something to do with regulating the circulation in the brain, and hypersecretion of this gland can also disturb the regularity of the cardiac contractions as seen so markedly in Graves' disease. A stimulating element in this secretion seems to irritate the brain, and if in excessive amount causes cerebral excitation, nervousness, and sleeplessness. Other parts of the thyroid secretion have to do with the regulation of the amount of mucin and connective tissue that shall be present or develop in the tissues, and if this secretion is

diminished, mucin appears in the skin and an abnormal amount of connective tissue develops, especially in the skin and arterial system.

This gland is easily excited to hypersecretion temporarily by emotion, and normally by menstruation and pregnancy, this probably being the cause of the more or less persistent increased secretion and consequently more frequent hypertrophy in women than in men, as 80 per cent. of all cases of Graves' disease occur in women. It is interesting here to note that this gland normally seems to be a cause, if not the cause, of the dilated condition of the blood-vessels of the uterus periodically allowing the leakage of blood, or menstruation.

Also between the ages of forty and fifty this gland begins to atrophy, and atrophies excessively more frequently in women than in men, as shown by 80 per cent. of all cases of myxedema occurring in women.

In the normal individual a small dose of thyroid would be little noticed, at least not for a long period, but when large doses of either thyroid extract, thyroid gland, or iodothylin are given, for some time, there will be nausea and vertigo with increased cardiac action, a tendency to increased sweating and diuresis, with possibly faintness, cerebral irritation and tremor, and even glycosuria may be produced.

Undoubtedly there are numerous causes for the appearance of sugar in the urine, but unless the urine was carefully analyzed to show that thyroid feeding in a given case of diabetes was doing no harm, it should not be administered in any case of glycosuria.

The marked value of thyroid feeding in cretinism, myxedema, and operative myxedema is a proved fact. In cretinism the dose should be small, and for physiological purposes I believe the dose of organic extracts should never be large, as the output of any one of these glands in twenty-four hours is certainly very small. The dried powder on the tongue of the patient, especially if the child be unruly, of about 3 Cg. ($\frac{1}{2}$ grn.) three times a day, is a good starting dose. If the temperature rises, or the pulse grows rapid, or the child becomes nervous, irritable or sleepless, too large a dose is being given and it should be diminished. As soon as the child has improved, a small dose once or twice a week may be sufficient. The same method of dosage regulated according to the age, and modified by the appearance of these symptoms, which are the symptoms of overfeeding perfectly similar to hypersecretion, is efficient for myxedema and for thyroidectomized pa-

¹ Read at the annual meeting of the American Therapeutic Society, May, 1902. *Med. News*.

tients. In cases of simple goiter I can see no special utility in the thyroid treatment, *per se*. If the patient is overweight, or fat and flabby, or there are any signs of myxedema, the treatment would undoubtedly be of value, but I would expect an iodide in some other form to do as much good as does the thyroid extract.

In exophthalmic goiter, which I have elsewhere named Graves' thyroid disease as being more nearly descriptive of the condition, thyroid extract has been tried. Believing as I do that Graves' disease is due to a hypersecretion, the thyroid extract would be contra-indicated during the continuance of the active symptoms. Clinically I believe this to be well borne out, as all of the symptoms are increased by thyroid treatment during the activity of the disease. On the other hand, we know that this disease tends to recovery, that this hypersecretion is reduced to normal secretion sooner or later in most cases.

Also it is barely possible that a hyperplastic gland may take on the next stage, as is so perfectly typical of other organs of the body, and perhaps show increased connective tissue formation; and, if not actually diminished in size, may have its glandular elements lessened so that we get a condition of undersecretion, with the putting on of weight, muscular weakness, and mental sluggishness—in other words, possibly the first stage of myxedema, which goes no further. These cases will be benefited by thyroid extract.

The rule I wish to suggest in regard to Graves' thyroid disease is: If there are cerebral excitement, palpitation, and progressive loss of weight, thyroid treatment is contra-indicated; if the patient is sleepy, apathetic, with but little palpitation, has no headache, and is putting on weight, thyroid treatment will probably benefit the case.

There can be all the symptoms of irritability, excitability, and hysterical manifestations of Graves' thyroid disease without exophthalmos and without apparent enlargement of the thyroid gland. These symptoms are true signs of increased thyroid secretion, and I believe that many cases of so-called hysteria are caused by temporary disturbance of the thyroid gland.

Probably almost every obese individual can be made to lose weight by the feeding of thyroid. Large doses will cause this loss rapidly, while small doses sooner or later will show their effect. This is especially true when the patient is over forty years of age, at which time he normally begins to put on weight and at which time his thyroid gland begins to diminish its secretion. If

it is a family tendency to be stout the weight will return more or less rapidly after the cessation of the thyroid treatment. I believe that it is dangerous to use large doses or persistently medium doses of thyroid for the reduction of weight. Unpleasant symptoms can occur, as nausea, loss of appetite, irritable heart, cold hands and feet, weakening perspirations, muscular relaxation, syncope, and even convulsions. The loss of weight continues for a considerable time after the cessation of the treatment. If thyroid gland is used to reduce the weight, the dose should be small, not too often repeated. The case should be treated much as we would a cured case of myxedema, except that the dose of the thyroid required would be less.

Theoretically the feeding of this gland should increase the circulation in the skin and the normal perspiration and stimulate the throwing off of the epidermis. Hence it would be indicated in all conditions in which there was impaired nutrition of the skin with a dry, scaly epidermis, as typically occurs in the dry eczemas, especially of old age, and in psoriasis. The dry eczemas of old age can be due to the diminished secretion of the thyroid, and the feeding of thyroid to patients when the skin was in the above condition has been of benefit.

As I have many times previously stated, I believe that any gland that can undersecrete or hypersecrete sufficiently to produce disease can also have its secretion sufficiently diminished or increased to give symptoms, though not enough to give the specific disease. Hence I believe many children, though not cretins, have diminished thyroid secretions, as evinced by dull, heavy features, fat and flabby condition of the flesh, a tendency to mucous discharge from the nose, with persistent, recurrent cracks and fissures of the skin, either at the opening of the nares, at the corners of the mouth, back of the ears, or on other parts of the body. Such children improve under thyroid treatment. I have even seen large glands of the neck in these strumous children disappear under this treatment.

The feeding of thyroid gives a tendency to hemorrhages, which may be a bleeding from the nose, or a profuse and hastened menstruation. Hence this drug is of value in amenorrhea or scanty menstruation.

The thyroid function being so closely allied to the menstrual function, it cannot but show disturbances at the cessation of the latter, *i. e.*, at the menopause. If the thyroid should rapidly diminish its secretion at this time, we have the condition of myxedema which occurs, as above stated, in 80

per cent. of all cases in women. If the thyroid at this time gradually diminishes its secretion, we probably have a most comfortable establishment of the menopause. If, on the other hand, as is fairly supposable, it does not diminish its secretion synchronously with the stoppage of the menstruation and therefore relatively hypersecreted, we have all of the disturbances of hot flashes, nervousness, palpitation, etc., which are so characteristic of many women during the climacteric, which condition should not be treated with thyroid. If, on the other hand, there is a marked putting on of weight at this period, we probably have too rapid diminution of thyroid secretion and small doses of thyroid extract would be good treatment.

Thyroid has been recommended and used by some clinicians in carcinoma of the uterus as well as carcinoma elsewhere. Personally I have not seen it do any good in this condition.

As physiologically we have diminished secretion of the thyroid probably after forty and certainly after fifty years of age, is it not supposable that the increased blood-pressure at this age may be due to this loss of dilator stuff, and that the suprarenal secretion with its blood-pressure-raising power has now full sway, and as a consequence occur the diseases and conditions due to increased blood-pressure, such as endarteritis and all of its manifold consequences? Also, the diminished secretion of the thyroid can increase connective-tissue formation, and therefore sclerosis in various parts of the body occurs, as we see it so exaggerated in myxedema. Also are not the drying and wrinkling of the skin in old age due to this same diminished secretion? I have repeatedly found in these conditions when there were signs and symptoms of arteriosclerosis and the head troubles and circulatory disturbances of high pressure, that small doses of thyroid were of benefit. Also, as it is proved that connective tissue is increased in thyroid atrophy, may not the thyroid gland be the best *alterative* and preventive of further connective-tissue formation in sclerosed organs, whether it be locomotor ataxia, small contracted kidney, cirrhosis of the liver, or endarteritis?

As a stimulant to the brain to be used in melancholia, or in definite cerebral disturbances, personally I have had but little experience. I have occasionally with it aroused a despondent individual, but have but small experience with it in the insanities. Perhaps it would be wise always to try thyroid treatment in the insanity of the menopause and in puerperal insanity, as

there is probably a disturbance of the thyroid gland at this time.

The therapeutics of the *pituitary* body should, perhaps, physiologically and clinically be considered in close connection with the thyroid. Disturbed function of the one gland seems to give rise to hypersecretion or disturbed function of the other gland, and many times at autopsies when one gland is known to be diseased the other is found also diseased. This is particularly true in the condition of acromegaly in which the pituitary body is always diseased, and I believe that the thyroid is also always found abnormal, and clinically the symptom-complex shows disturbances due not only to perverted pituitary secretion, but also to perverted thyroid secretion. The early symptoms in acromegaly are often complicated by symptoms due to hypersecretion of the thyroid. Later the increased action of the thyroid seems to tend, as it does in many glands and many organs of the body, to the formation of connective tissue, and the thyroid gland takes on the condition seen in myxedema, *i. e.*, connective tissue encroachment, closing up and diminishing the colloid containing acini. We then have not only the enlargement and thickening from the pituitary disturbance, but enlargement and thickening of the skin, or myxedematous appearances plus connective-tissue formation everywhere, especially in the arterial walls.

While we can undoubtedly have tumor growths in the sella turcica and tumors of the pituitary body without symptoms of acromegaly, it is highly probable that some portion of this gland is producing normal secretion sufficient for the requirements of the body, and hence acromegaly does not develop. Certain it is that I have not found in literature a single authentic case of acromegaly in which a diseased pituitary body was not found on autopsy.

As I have elsewhere stated, I am convinced that giantism is caused by hypersecretion of the hypophysis, while acromegaly is due to a disturbed or diminished secretion of this gland. In fact I will go one step farther and state my belief that acromegaly is often in the beginning giantism, *i. e.*, homogeneous overgrowth without troublesome subjective symptoms or objective deformities, and that almost every patient with giantism if he lives long enough will develop deformities and symptoms of acromegaly.

While we are waiting for the physiological chemists to tell us just what the action of the pituitary is in the blood, we may note that Moraczewski, in a recent article on

"Metabolism in Acromegaly," says there is a tendency in this disease to retain in the body the tissue-building substances such as nitrogen, phosphorus, chlorides, and calcium. As to the action of retained phosphorus in the blood, we may note this, that in the first stage of acromegaly there is increased bone growth, while in the late stages there is distinct bone thinning. This is also true of slow phosphorus-poisoning. A small amount of phosphorus or phosphates may increase bone structure, while a large amount will cause thinning of the bones. Hence it is quite probable that in certain stages of acromegaly too much physiological phosphorus, perhaps elaborated by the pituitary, is retained in the system, and pathologically many cases of acromegaly have shown this unexpected thinning of the bones.

I have reported elsewhere, and Dr. Kuh, of Chicago, has recently reported the same experience, that the feeding of pituitary tablets to patients with acromegaly who are suffering from headache of the intense variety and who are muscularly weak, causes the headache either to cease or to become ameliorated, and the return of muscular ability. I have now an acromegalic case which I have had under observation for about three years. Her headaches will almost cease and her muscular ability return under pituitary feeding. She can then go without this substance for a number of weeks, sometimes for two or three months, but will always return to the clinic asking for more of her headache tablets, and always with the same good results. When this treatment was first started she was suffering constant, excruciating, and continuous headache, and was muscularly unable to do her work or hardly to be about.

At this period of acromegaly, as shown by autopsies, we must believe that the hypophysis has ceased to furnish its secretion, but why the pituitary feeding should relieve this headache, which is probably a toxic headache, I cannot tell. I have found no other treatment, chloral, bromides and other anodynes not excepted, that will relieve this headache as does pituitary. The dose is two or three 3-grn. tablets a day. We may find that pituitary is logical treatment for dwarfs.

The exact physiological behavior of the *thymus* gland in the organism is also not positively decided. Certain it is that it is the richest organ in the body in nuclein, and therefore in physiological phosphorus. This gland, reaching the height of its activity so soon after birth and being evidently of primary importance during the rapid growth

of the child, atrophying and disappearing at the time of puberty, shows inductively that it must have to do with the growth of the body. The part of the body which most evidently grows at this time is the osseous portion, hence theoretically it would seem that this gland has something to do with the formation of normal bone salts. Whether this gland is antagonistic to or its secretion is in some lines analogous to that of the thyroid, we are not able to decide, but in cases of Graves' disease, in which feeding of thyroid would aggravate all of the symptoms, I have had good success in giving the thymus gland, and this in repeated cases and repeatedly in the same case, and am empirically convinced that the thymus treatment is often of value in hypersecretion of the thyroid.

In treating pulmonary tuberculosis, looking for some drug or preparation which would aid in the normal physiological, or pathological if you will, cure of tuberculous deposit and infiltration—i. e., the local deposits of lime-salts and phosphates, shutting off and isolating the tuberculous process from the rest of the lung—I hit upon this gland as furnishing normally just the kind of salts that is used in this process, and for several years have given thymus gland to all of my tuberculous cases, and am prepared to say that, combined with the best hygienic, hydro-therapeutic, and fresh-air surroundings that I can give my patients, thymus-gland treatment will always make the condition better. The patients put on weight and curable cases get well faster under thymus than without it. This is possibly only a revival of the hypophosphite treatment, but I believe that it is physiologically more effective.

The dose of this preparation is two or three 3-grn. tablets a day.

The *suprarenal* glands have been so much discussed in literature and in societies that it is almost unnecessary to mention them here. Abel's *epinephrin* and Takamine's *adrenalin* have placed clinicians in a position positively to determine the value of the wonderful blood-pressure-raising properties of these glands. The action on local mucous membranes needs no discussion. The inability of suprarenal or any preparation of it to raise the blood-pressure or to stimulate the heart after it is swallowed into the stomach is a proved fact. The power of suprarenal substance, or adrenalin, or epinephrin to raise the blood-pressure and stimulate the heart when sprayed on mucous membranes, chewed up or allowed to absorb from the mouth, is also a proved fact.

Whether or not adrenalin solution is the

purest product that can be obtained of the blood-pressure-raising substance of suprarenal, it certainly is the product that we can most readily obtain in the shops to-day. Hence no case of sudden cardiac failure or shock, whether from injury, from operation, from intensity of an infection, or from crisis in disease, should be allowed to carry off a patient without the use of adrenalin, together with whatever other treatment is advisable. The dose of the 1:1000 solution of adrenalin is 5 to 10 drops on the tongue every fifteen or thirty minutes for a few times, and then every three hours as needed.

So much for the vaso-constricting and cardiac stimulating properties of suprarenal, but there are undoubtedly other properties of this substance representing other functions of this gland which we do not at all understand.

I have recently had a very interesting case of diabetes in a young boy ten years old, in whom I could demonstrate no pancreatic disease and could put my finger on no one organ that was diseased. This patient's urine was examined very carefully, for a number of months, and we found the feeding of thyroid to this boy would cause an increase in the output of glucose, put the diacetic acid, acetone, and ammonia up to a dangerous height, and cause symptoms of pending toxic acidemia. Arsenic also, which I believe to be a stimulant to the thyroid gland, would increase the sugar. Various treatments were tried. Finally suprarenal tablets were fed him, under which treatment the sugar was diminished more than by any other treatment, the diacetic acid would almost disappear, and the acetone and ammonia diminish. This treatment was persisted in and was quite successful in keeping him in apparent health. Sometimes adrenalin solution was substituted for the suprarenal, but it did not seem to do so well. The suprarenal was given him by the stomach on the theory that it was not the blood-pressure-raising substance that was of benefit, but probably the other parts of the gland. This patient remaining about the same for a year under the suprarenal treatment, there being no lessening in the amount of sugar passed in the urine, it was deemed best to stop the suprarenal for awhile and watch the urine to see where we were at. *Post hoc* or *propter hoc*, in two weeks the patient developed diabetic coma and died in a few days. This case is of interest in conjunction with the recent experiments that have shown that the injection of adrenalin solution into the abdominal cavities of dogs has caused marked glycosuria. It is also

interesting to note that the feeding of thyroid in this case increased the sugar output, and it is well known that Graves' disease can cause a glycosuria.

I believe that adrenalin should certainly be used in all conditions of low vaso-motor tension, typically, of course, in Addison's disease, and in the anemias. It should undoubtedly be used with care after fifty years of age, as I believe the suprarenal secretion is then in the ascendant and overpowering the diminishing thyroid secretion. The suprarenal preparations are recommended for various conditions, and certain it is that solutions of this gland can be used with success locally wherever there is mucous membrane congestion, inflammation or capillary bleeding. In shock from anesthesia and from narcotic poisons, especially from morphine, where it is possible that the suprarenal glands are paralyzed or their secretion interfered with, and hence the dangerous dilatation of the abdominal blood-vessels, in all of these conditions there is certainly an indication for the use of adrenalin.

The gland which seems to be causing the most discussion [?] in the medical journals, but one the physiology of the internal secretion of which we know little, is the *ovary*. The advent of puberty with all of its distinctive phenomena showing the development of the ovaries and the maturity of their function, and again the disturbances of the menopause when its function ceases, and also the operative climacteric caused by the removal of the ovaries, all tend to show that there is an important internal secretion of this gland.

It is now so well recognized that the functions of the ovaries should not be rudely or unnecessarily removed, that surgeons are endeavoring to ablate only the diseased portion of these glands, or, if the tubes must be removed, to transplant the ovaries into the uterine walls, and with apparently large measure of success. Suffice it to say that we as therapists should be greatly pleased at the retention of this physiological secretion which seems to be necessary to the health of the individual. If it is necessary to remove both ovaries, theoretically ovarian substances should be fed until such time as the systemic disturbances have abated. However, the feeding of ovarian substance in these conditions does not always give the desired amelioration of the symptoms, perhaps because most of the symptoms are due to a relative hypersecretion of the thyroid.

The ovaries are being removed for carcinoma of the breasts, but with what measure

of success is not yet positively in evidence. Ovarian substance has been given to chlorotic and anemic girls with amenorrhea, but I am inclined to think that thyroid substance in small doses is of more benefit. In a word, I believe the therapeutic value of ovarian substance or extract is still experimental.

Of its analogue, the *testicular* or *orchitic extract*, there is very little therapeutically to say. It is a preparation rich in nuclein and phosphorus, and when a stimulant of this description is needed by the system it is undoubtedly good treatment. Any special specific action of testicular substance other than that of nuclein stimulation is still unproved and mythical. That this gland has some important internal secretion cannot be doubted by any one who has watched the profound intoxication of the body when the infection of mumps strikes the testicles. The high fever of 105 or 106° F., with very often a slow, weak pulse, or a rapid, weak pulse, with irritability, nervousness, restlessness, very different from the same infection attacking the parotid gland, shows that some secretion has produced a profound intoxication.* In just what relation the parotid stands to the testicles, or what, physiologically, the infection of mumps does, stimulating or retarding the secretion, we do not know.

In following out the suggestion of Dr. Schober, of Philadelphia, and Dr. Mallett, of New York, I have tried *parotid* gland for the pains of dysmenorrhea and often with success. In a case of epilepsy that had been under treatment for years with bromides, with more frequent attacks at the menstrual periods which were always accompanied by dysmenorrheal pain, I had found thyroid tablets to be as beneficial if not more so than bromides. The thyroid treatment, however, was objected to on account of producing profuse and frequent menstruation, and I substituted parotid-gland treatment, and found the dysmenorrhea was not only better, but the epileptic attacks ceased and have not occurred for over a year, while the *petit mal* attacks which were almost daily, have not been noticed in six months. Of course this may be an accidental or coincidental result, but the patient has received no other treatment for a year, and I shall most certainly give the parotid further trial.

Whether or not we can depend upon *mammary* extract as an aid in the debility of young women or to stop uterine hemorrhage and menstrual backache, or can diminish the size of muscle tumors or fibroids of the uterus, is still unproved. In some cases I have thought that I could attribute some good to such treatment, but I have not

gotten the brilliant results obtained by some clinicians who have employed this extract. Until careful chemical investigations may reveal some isolated principle its therapeutic efficiency will remain unsatisfactory.

TREATMENT OF CARBUNCLES

Dr. L. C. Charbonneau¹ says that if proper medicinal measures be early employed in the treatment of carbuncles, the use of the knife could frequently be dispensed with. His treatment is an ointment of ichthyol, 40 to 95 per cent., and liberal doses of calcium sulphide. He reports as an illustration the following severe case. Dr. T., aged seventy-five years, had suffered with a severe carbuncle for three weeks, for which he was treated by two other physicians. The latter informed the family that the disease would prove fatal, and it was then that the writer was called in. The carbuncle extended from the post-occipital protuberance, laterally to the sterno-c-mastoid muscles, and below the shoulder. The induration about the margin of the wound was about one quarter of an inch. The surface was one mass of gangrene. Patient suffering great agony, pulse 130, temperature 103.4°, respiration 30, prostration extreme. Urine sp. gravity 1.025, no albumin nor sugar; heart, left ventricle dilated; mitral regurgitation. Prognosis very unfavorable on account of the systemic intoxication. Having carefully examined the patient the writer requested his brother, also a physician, to take immediate charge of the doctor and give him a fight for his life. Treatment: Removal of all available gangrene and slough; washing the surface with peroxide, then applying ichthyol, 95 per cent.; 10 Cc. antistreptococcic serum every twelve hours; strychnine nitrate, $\frac{1}{30}$ grn. every four hours; calcium sulphide, 1 grn. every four hours. Diet, 8 oz. of milk every two hours.

The response to treatment was immediate. Within forty-eight hours the temperature dropped to 100°. The serum was discontinued on the fifth day, and at the end of ten days the entire surface was granulating. The ointment was modified to ichthyol, 30 per cent.; oleate of mercury, 20 per cent.; the calcium sulphide was discontinued, and the phosphates of soda and lime substituted. The treatment was rather a mixed one, but the case was desperate. The doctor received, to the author's mind, the benefit of all present known surgical and medical treatment. His convalescence was uneventful. Ichthyol, the author states, is abortive in about 70 per cent. of all cases.

¹ *Med. World*, xx, No. 5.

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THE TREATMENT OF PUERPERAL ECLAMPSIA

Dr. G. E. Herman,¹ M.B., F.R.C.P., wishes to direct attention to two points: first, to the effect of emptying the uterus in eclampsia; second, to the value of the tepid bath in certain cases of the disorder.

(1) It has been asserted that the best treatment of eclampsia is to empty the uterus as quickly as possible. Dührssen, of Berlin, has even devised a sort of "vaginal Cesarean section," by means of which he can empty the uterus in five minutes. Now, this theory is over half a century old, and it is still far from being generally accepted. Surely, there must be something wrong in the method, to prevent it from receiving universal recognition. The fact is, we are confronted by some difficulty in judging any special method of treating eclampsia, when we consider that 80 [?] per cent. of all cases recover under almost any kind of management. The best test of treatment is the power of predicting its effect. In eclampsia, when the patient is neither obviously dying nor recovering, we cannot yet predict the results of our treatment. The next best test is the statistical. If the method has cured three or four cases, it should cure 300 or 400 cases. Now, is this so with emptying the uterus in eclampsia? Do the fits actually cease when the uterus is emptied? Schanta has collected a series of 342 cases, in which 185 were attacked by fits during labor. The emptying of the womb arrested the convulsions only in 62 of these cases! Series of cases collected by numerous other authorities all show a similar lack of conclusive proof of the value of the method in question.

When the uterus is emptied, the fits do not at once cease; often they continue, in some cases getting even worse.

But, granting that the fits do not always cease after hastened delivery, it may still be argued that such speedy delivery offers better chances of recovery. This is true at best only to the extent of a difference of 1 to 2 per cent. in mortality. Now, what surgeon would recommend an operation, if the patient's chance of recovery was about 2 per cent. better than if he were left alone?

No, immediate delivery is *not* the first thing in treatment. Its benefits are so trifling as to be doubtful.

If rapid delivery were the chief indication in eclampsia, then Cesarean section would

undoubtedly be the best method of treatment, for no other is as prompt. As it is, statistics show a very large mortality in Cesarean section performed in eclampsia.

(2) The value of reducing high temperature in eclampsia by means of tepid baths is well illustrated by the following case. A young primipara, twenty years of age, was admitted to the hospital in the seventh month of her pregnancy. She had sent for her physician on account of abdominal pain and vomiting. The bowels were constipated, the temperature normal. She had no fit. A purge was prescribed by her medical attendant. A few hours later the fits came on and she was sent to the hospital. Here, an injection of $\frac{1}{4}$ grn. of morphine was ordered at once. Second convulsion called for another dose of morphine. The temperature rose to 104.8° F., the pulse was 174. Pupils small. Slight edema of the legs. Urine full of albumin. The patient was placed in a warm bath, which was rapidly cooled down to 80° . She remained in the water for twenty-five minutes, the temperature in the meantime falling to 102° . She was then taken out, well wrapped up, and allowed to perspire. Soon afterwards, she had a slight fit and aborted. The temperature fell the next day and remained normal. A temporary mental derangement took place, from which she recovered.

In this case the prognosis was decidedly unfavorable in the beginning, and the author is inclined to attribute the happy results of treatment chiefly to the antipyretic effect of the bath. Another similar case, occurring in his private practice, confirms his belief in the value of the measure.

THE DRY METHOD OF TREATING OTITIS MEDIA

Dr. E. W. Davis¹ says that in treating purulent middle-ear inflammation we will get much better results by the dry method than by syringing with antiseptic solutions. Dryness is as fatal to most germs as strong chemical antiseptics, and in no way can the tympanic cavity be kept dry so effectually as by gauze drainage. The only objection to its use is that it requires a little more skill than simple syringing and powder-blowing. The physician should proceed as follows:

The discharge should be thoroughly wiped away with the cotton-carrier, exposing the drum perforation or the tympanic

¹ *Lancet*, CLXII, No. 4104.

¹ *N. Y. Med. Jour.*, LXXVI, No. 2.

cavity if the drum is destroyed. In the latter case the cotton-carrier can be introduced into the middle ear, and cleans it of all secretion. A narrow strip of dry gauze should now be introduced through a speculum and the canal loosely packed to the meatus. This should be allowed to remain until soaked with the discharge, whether it takes one or twenty-four hours. It should then be removed and a piece of dry cotton placed in the meatus and left until the next packing. The packing should usually be done twice daily in acute cases; in chronic cases once daily is usually sufficient. No antiseptics or other medicaments are necessary. Plain sterile gauze is sufficient. In chronic cases, where the discharge is offensive, a few instillations of boric acid in alcohol, before each packing, correct the fetor. The alcohol aids the treatment by its drying action, and the boric acid stimulates the membrane to healthy action. The draining away of the discharges accomplishes cures more rapidly than any other method, is agreeable to the patient, and keeps him under the direct care of the physician. The writer believes that there are very few cases that will not yield to this treatment when carefully carried out.

FOR PROSTATIC CONGESTION

Dr. Stordeur¹ recommends the following suppository for the relief of prostatic congestion from any cause:

Potassium Iodide.....5 grn.
Ichthyol3 grn.
Morphine Hydrochl.....½ grn.
Ext. Stramonium.....½ grn.
Oil Theobroma.....sufficient

For one suppository. One or two daily.

PILOCARPINE AND CHLORAL IN ECLAMPSIA

Dr. B. F. Eager² had three cases of puerperal convulsions, all in primiparæ, within a period of ten days. In the first two, convulsions came on about eight hours after labor; in the third the convulsions preceded labor by about thirty hours.

Chloroform was given during the convulsions till patient could get under the influence of chloral. The first two were given 10 grn., repeated every hour till convulsions were controlled, then from two to four hours as indicated by restlessness and headache. The last was given 30 grn. at once, and then repeated as with the others. Each was given a full dose of salts, and then pilocarpine was given in $\frac{1}{12}$ -grn. doses every hour till free sweating ensued, then every two or three hours as needed to

keep the excretory functions active. All did nicely under this treatment.

In the last case the child was born dead. In the first, the child died on the tenth day after having three observed tonic convulsions, having had bowel disturbance from the first. The second child was doing well when last heard from.

[In our capacity of faithful chronicler, we abstract the above report. We will say, however, that we do not approve of pilocarpine in puerperal eclampsia, except, perhaps, in the mildest cases. We pin our faith to *veratrum viride*.—EDITOR M. A.]

ICHTHARGAN IN NOSE AND THROAT DISEASES

Prof. Beaman Douglas,¹ of the New York Post-Graduate Medical School and Hospital, speaks very favorably of the use of ichthargan in rhino-laryngological work.

Ichthargan is a compound of silver and ichthyol; chemically, silver-thio-hydrocarbo-sulphonate; is readily soluble in water, glycerin, and dilute alcohol, but insoluble in absolute alcohol, ether and chloroform. It should be kept in colored bottles. It is precipitated by sodium chloride and albumin, but the latter precipitate is redissolved by an excess. It contains 30 per cent. of silver and 15 per cent. of sulphur, both in organic combination with the bases from the ichthyol-sulphonic acid—thus, the strongest of all the newer organic silver compounds. For nose and throat work it must be used in preparations from 1:50 to 1:10, 1:20 being suitable for general use. He finds it of value as an anesthetic, antiseptic, antiphlogistic, stimulant, alterant, and as a modifier of nasal secretion. The anesthetic effect is not very marked. The antiseptic effects are plainly shown in its deodorizing properties, and as an antiphlogistic it has an important action on the respiratory mucous membrane, first producing anemia, followed by no reaction unless very strong solutions are used. As a stimulant it acts as an alterant, producing more healthy circulation, diminishing congestion and lessening exudation, and probably acts directly on the cell protoplasm itself. In modifying secretion it seems to act by lessening leucocytosis. The author thinks good results can be obtained in atrophic rhinitis, acute catarrhal rhinitis, tonsillitis, and inflammation of the lingual tonsil. It can be safely recommended in certain laryngeal affections, such as acute catarrhal laryngitis of adults, in a spray in 4 to 8 per cent. solutions, and in laryngitis sicca in a 10 per cent. glycerin solution, and in chronic atro-

¹ *Jour. Amer. Med. Assoc.*, May 3, 1902.

² *Surg. Clinic.*, July, 1902.

¹ *Laryngoscope*, XII, No. 5. (Read before N. Y. Academy of Medicine.)

phic tracheitis where there is abundance of dry saliva and scales.

In conclusion, the author reports the following two cases of atrophic rhinitis, treated principally by the application or spraying of a solution of ichthargan.

Case I.—Mrs. S. H., twenty-four years old, for several years has been treated for atrophic rhinitis without deriving any marked benefit. The patient complained of dryness, itching, scabbing, constant desire to blow the nose, and bleeding if scabs are detached. On examination the nasal mucous membrane was dry and covered with scabs. There was atrophy of the turbinates on both sides, the region being covered with scabs and superficial ulcers. There were dry, hard scabs along the septum, leaving bleeding areas on removal. The nose was thoroughly cleaned and an application of a 4-per-cent. solution of ichthargan was used four times a week. The patient was given a 2-per-cent. ointment of ichthargan in vaselin to be introduced into the nose twice a day. The nose was not to be washed out at home. At the end of three weeks the distressing symptoms had disappeared, the scabs were gone, and mucous membrane appeared healthy for an atrophic case. On examination two months later there were still no scabs, although the only treatment carried out had been the occasional application of the ointment at night.

Case II.—Mrs. N., forty-five years old, an old, neglected case of atrophic rhinitis. The patient complained of dryness, itching, and disagreeable odor. Scabs were frequently discharged on blowing the nose. On examination the mucous membrane was found very dry and parchentlike with marked atrophy of the turbinates and atrophic nasopharyngitis and pharyngitis. There were small ulcers under the scabs along the septum and hard, dry scabs with ulcers on other parts. The treatment consisted in thorough cleansing of the nose and naso-pharynx, with a solution of boric acid. The crusts were removed with a cotton applicator. The ulcerated spots were touched with a 10-per-cent. watery solution of ichthargan, and the entire nose and pharynx sprayed with a 4-per-cent. solution. This was done four times a week for five weeks, at the end of which time the mucous membrane was more vascular, and the ulcers and scabs had disappeared. One or two small scabs remained along the septum. After this treatment the patient only required the use of a 2-per-cent. ointment daily. The patient was seen one month later and showed decided improvement. There was no odor, no scabs nor ulcers, and the patient was discharged with instructions to use the ichthargan ointment once daily.

The author also used this remedy in watery and glycerin solutions in various forms of nasal ulceration, in aphthous disease, and syphilitic ulcers of the pharynx and mucous patches of the pharynx and mouth, in acute as well as syphilitic and tubercular laryngitis, and it has proved as satisfactory as any silver preparation he has ever used. These are his concluding words: "It would seem that this remedy were worthy of further trial in nose and throat diseases, and it is with confidence that we recommend it to all members of this section."

THE TREATMENT OF TYPHOID FEVER

This is an old subject, yet ever new. Dr. Adolph Koenig,¹ editor of the *Pennsylvania Medical Journal*, gives a succinct statement of his method of treating typhoid fever, and while containing nothing essentially new, his method is so simple and common sense that it is worth reproducing rather fully in the pages of the ARCHIVES. It has been Dr. Koenig's aim to accomplish the following results:

(1) To keep the alimentary tract as free as possible from fermentable matter. (2) To inhibit as far as possible the activity of the putrefactive bacteria, which normally inhabit the intestinal canal. (3) To eliminate the toxin produced by the bacillus typhosus as rapidly as possible. (4) To support the vital functions of the patient. (5) To keep within bounds the temperature of the patient. (6) And in the later stages to select articles of diet suited to the condition of the intestinal tract.

The first indication to keep the alimentary tract free from fermentable substances requires two measures. It is the author's custom, in fact it is his routine practice, to give small doses of calomel, from $\frac{1}{16}$ to $\frac{1}{8}$ grn. every two hours, in every case in which the symptoms point toward typhoid fever. In this way all fecal matter is removed from the intestinal tract by a remedy which at the same time exerts an antiseptic influence throughout the tract. The second measure is to withhold all food during the time of pyrexia—the time during which the patient experiences no desire for food—and if ingested, cannot digest or absorb it. Why, it seems reasonable to ask, should food be placed in the alimentary canal, which nature at once aims to get rid of by an exhausting diarrhea, not, however, before much toxic material has been produced, some of which doubtless enters the circulation and adds to the mischief already produced by the toxin of the bacillus typhosus? Other things being equal, he is always guided in the matter of the administration of food by the desires of the patient. When hunger exists it is reasonable to suppose that the digestive functions are not altogether in abeyance, and that proper food may be given.

The second indication, to inhibit the activity of the putrefactive bacteria, is accomplished best by the administration of guaiacol, an antiseptic and germicide of great strength, and at the same time, of comparatively small toxicity, both of which statements will be readily recognized as true, when we call to mind the effect of the same remedy as seen in smoke-houses,

¹ *Penn. Med. Jour.*, July, 1902.

where meat is preserved indefinitely and its healthfulness practically unimpaired, for the best grades of creosote are composed of about 85 per cent. of guaiacol. The author gives this remedy as a routine practice, in spite of the opposition by many authors against so-called "routine practice." Why should we not have a routine practice in a disease in which the cause is known, and is always the same, and human vital functions also practically identical in all individuals? It is the author's custom now to begin with 2 or 3 drops every two hours, day and night, in a teaspoonful of whisky, well diluted in water. Gradually the amount is increased to 4, 5, or 6 drops, if the patient bears it well. The whisky is given for two reasons; first, to better insure the solution of the guaiacol in water, and, second, for the reason that alcohol in this small amount serves a good purpose in supporting the patient during the period when his digestive functions are arrested. In addition to its antiseptic action, it has been claimed for guaiacol that it possesses a destructive action upon the toxin, an assertion, however, which is so far not susceptible of proof. Where the patient objects seriously to taking the guaiacol in liquid form it may be rubbed up with calcium carbonate, or magnesium carbonate, and administered in capsules.

The third indication, to eliminate the poison, is one which is often overlooked in the various plans of treatment. The remedy which must be recognized as the one of greatest efficiency for this purpose, is water. Happily we have here the co-operation of the patient to the fullest extent, and it is not difficult to administer from 2 to 3 quarts during the twenty-four hours. There can be no doubt whatever that to rapidly change the aqueous portion of the blood through drinking large quantities of water, with the subsequent free diuresis and diaphoresis, will result in the elimination of the toxin, to which the lethal effects of the disease are due. The statement has recently been made that the prognosis is good in any case of typhoid fever, no matter how severe the symptoms, if the secretion of the urine can be maintained at the normal, or better still, considerably above the normal. The author has not infrequently succeeded, by the free use of water alone, in stimulating the kidneys to excrete 70 or 80 oz. of urine in twenty-four hours.

The fourth indication, to support the vital functions, is best accomplished by the administration of whisky, or other alcohol-containing liquids, in amounts indicated by the condition of the patient. The fact that

alcohol so given disappears in the system—and is not found in any of the excretions—is an indication that it is utilized in the system. Strychnine, digitalis, camphor, ammonia, and other heart stimulants all serve a good purpose in special cases.

Fifth, there is little doubt but what the elevation of temperature is a curative measure instituted by nature; but nature often overshoots her mark, and it is the office of the physician, through his intelligence, to guide her efforts. Hence it becomes needful to apply measures of repression against a too high temperature, and of all measures, the application of cold water is attended with the best results. The so-called Brand method is doubtless the most efficacious, but in private practice it is inexpedient. Its place, however, is well filled by the sponge bath. A sponge of good dimensions in experienced or well-directed hands, has always in the author's experience served the purpose for which the bath is given in the hospitals.

The sixth and last indication of treatment, the choice of articles of diet and the period of their administration in convalescence, is of the utmost importance, for there are but few of us who have not seen relapses, if not deaths, the result of errors in this connection.

If the treatment above outlined is faithfully carried out, the morning temperature should drop to normal early in the third week of the disease, and, a few days later, the evening temperature should follow suit. The intestinal ulcers, however, remain unhealed, but owing to the antiseptic action of the guaiacol and calomel, they are in a healthy condition and rapidly undergoing repair. In these cases, in spite of the normal temperature, about the middle of the third week the tongue remains coated, a sure indication that the intestinal tract is not yet ready for the digestion of any but the most bland of foods. A return to solid food at this time will almost certainly initiate a relapse, which will retard the final recovery for two or more weeks, if not end in death. This is the time when the pleadings of the patient for solid food must be met with stern refusal, for it is *the tongue*, and not the temperature, which must be taken as the guide. Milk, alternating with meat broths, barley-water, etc., is all that is permissible at this time. The broths are valuable, especially chicken broth, to counteract the binding properties of an exclusive milk diet. Raw scraped meat, tapioca, thin cornstarch, apple sauce, scraped bananas, etc., serve as a gradual transition from liquid to solid food. Eggs, at this

time, have frequently appeared objectionable, and it is well to postpone their use until the tongue is quite clean.

GUACO

Guaco (*guaco aristolochia cymbifera*) is a plant indigenous to the mountainous districts of Mexico. Physiologically, it has the power to paralyze the sensory nerve centers.

Dr. Butte¹ experimented with the drug in affections in which the sensory nerve centers are irritated: in neuralgia, pruritus, pruriginous eczema. The results were satisfactory, the clinical experiments thus conforming to the physiological action. The guaco was used externally and internally, but the author does not state mode of administration or dose.

RHEUMATIN

Dr. Pieper² reports having used rheumatin (*saloquinine salicylate*) in four cases of acute articular rheumatism. He gave it in doses of 60 grn. pro die, and the results were good. The author says that if anorexia and tinnitus aurium result from the use of this remedy, they are much milder than after the use of the alkaline salicylates or aspirin. He also used it with good results in two cases of trigeminal neuralgia.

CURATIVE AGENTS IN MALARIA

In an editorial entitled "Practical Points Concerning Malaria," a foremost medical journal³ states: "There is only one curative agent, quinine. To employ any other—except, perhaps euquinine—is a waste of time."

ICHTHYOL IN CONJUNCTIVITIS

This drug seems to gain in the number of conditions of inflammatory character to which it may be profitably applied, states the *Medical News*.⁴ Dr. Popov has used ichthyol in solutions of from 10 to 20 per cent., in the form of baths, and as a collyrium. After having turned back the lids he lets a few drops of the solution fall upon them until the sensation of irritation produced by the medicine begins to extend. He then removes the excess of the fluid with a small bit of absorbent cotton. In this manner he has treated about 30 patients, of whom 6 were afflicted with trachoma, 1 with dry granular conjunctivitis without catarrh, 6 with trachoma complicated with catarrh of the conjunctiva, and

17 others with chronic trachoma with diffuse infiltration and hypertrophy of the conjunctival sac and mucopurulent secretion. The persons of the last category were cured in about five or six weeks, the dry conjunctivitis in a month and a half, and those of the third group in two months. Finally, of the 17 with hypertrophy, 4 recovered completely in four months; the 13 others showed considerable improvement by a diminution of the secretion and in the thickness of the conjunctiva. The drops of the ichthyol solution are as a rule well borne and cause much less smarting than silver nitrate or copper sulphate. In one case he found an idiosyncrasy for the medicine which manifested itself by an edema.

VALUE OF METHYLENE BLUE IN OPERATING ON FISTULOUS TRACTS

Dr. Theo. G. Davis¹ reports the following case. He was called to see Miss B., aged forty-three, she having had during the previous winter an abscess, situated between the right tuberosity of ischium and anus, opened and twice operated on. This had refused to heal. On examination, a line of scar tissue was found to extend from the outer side of the anal sphincter almost to the ischial tuberosity; about the center of the scar was a small opening from which oozed pus and the margins of which were undermined and unhealthy. The tract was cleaned by hydrogen dioxide and water, equal parts, and afterward with alcohol, 50 per cent.; this was continued for about two weeks, tenderness disappeared, and the general appearance improved. On using hydrogen dioxide, in full strength with force, a very slight foam discharged from the anus.

Examination by speculum revealed a minute opening about three inches above the anal margin. The patient's general health had improved and an operation was determined upon.

"Whether by inspiration or unconscious plagiarism, which is so common," the author resolved to inject the tract with a solution of methylene blue, 30 grn. in an ounce of 50-per-cent. alcohol. This was done with considerable force three times during twenty-four hours. The patient having been prepared and an anesthetic administered, the anus was stretched and the small opening in the rectum, stained blue, could be easily seen three inches above the anal margin. The deeply-stained tissue could be easily distinguished, and was removed with a sharp curette and the space carefully cleaned and packed about a moderately soft

¹ *Bull. Médic.*, 1902, No. 30.

² *Therap. de Gegenw.*, 1902, No. 5.

³ *Jour. Amer. Med. Assoc.*, Feb. 15, 1902.

⁴ *Med. News*, LXXX, No. 20.

¹ *Jour. Amer. Med. Assoc.*, June 7, 1902.

rubber tube in the rectum, extending beyond the dressings, which were changed as needed.

The patient recovered nicely and now has control of stools and flatus. The author expected later to make end-to-end suture of the sphincter, but she is satisfied with the result.

The deep staining of the diseased tissue and the ease with which it can be distinguished and completely removed induced the author to report this case. He does not think in any other way can we be certain of its complete removal, which accounts for the two previous failures of operation. The injection of methylene blue as described will enable the surgeons to follow any tortuous tract and can be applied to all old sinuses.

ADMINISTRATION OF ANTAGONISTIC REMEDIES

Dr. N. S. Davis, of Chicago, has an article in the recent issue of a contemporary¹ under the following rather long title: "Need of a much more accurate knowledge concerning both the immediate and remote effects of the remedial agents in general use; and the exercise of more care to avoid the coincident administration of antagonistic remedies in acute diseases." While rather verbose, the paper contains some suggestive points, and the one about the administration of antagonistic drugs deserves consideration. The author states:

"So long as the profession were obliged to depend upon the objective and subjective phenomena furnished by the person taking any particular medicine, they called all such as rendered the action of the heart slower, cardiac and arterial sedatives; and such as increased the frequency of the cardiac systoles were ranked as stimulant and tonic. Accordingly, aconite, veratrum viride, strychnine, digitalis, strophanthus, cactus, etc., were all called cardiac and vascular sedatives; while alcoholic liquors, ether, camphor, carbonate of ammonia, tea, and coffee were ranked as direct cardiac and vascular stimulants and tonics. But when the modern processes of experimental therapeutics were applied to them it was soon demonstrated that the strychnine, digitalis, etc., so influenced the cardiac, respiratory, and vasomotor nerve centers as to cause the cardiac action to be slower and stronger, and give more tone or firmness of the arteries, with deeper inspirations; thereby showing them to be true cardiac and vasomotor tonics instead of sedatives. And as their action was not accompanied by coincident anesthetic influence on the cerebral hemis-

pheres, they were readily transferred to the class of cardiac and vasomotor tonics with alcohol at its head. Consequently, we still find in nearly all recent practical works heart failure is set forth as the chief danger in the progress of all acute infectious diseases, to counteract which early resort should be had to cardiac and vasomotor tonics, of which we are uniformly assured that 'alcohol, strychnine, digitalis, and strophanthus are the most reliable.' Thus placing two remedies at the head of the list, to be given alternately or even simultaneously to the same patients and for the same purposes that have been demonstrated to be as near absolutely antagonistic in their influence on the cerebro-spinal, vasomotor, metabolic, and excretory functions as any other two remedies to be found in the materia medica. The one, alcohol, diminishing all the functions named, while by its anesthetic effect it renders the patients more quiet and less conscious of either weakness or pain; and the other, strychnine, increasing them, and thus leaving the physician to wonder why the patient tolerates so large an amount of medicines with so little apparent effect."

His indictment of the coal-tar antipyretics will also probably be concurred in by the majority of physicians, though it is rather the abuse than the careful, guarded use of the remedies that should be preached against. The author says in reference to this subject:

"The active ingredients in most of the 'headache powders' and other popular remedies for migraine, neuralgia, insomnia, and general nervousness, belong to the coal-tar group of antipyretics. The same group of remedies were given freely by perhaps a majority of physicians in the treatment of influenza or la grippe, as it has prevailed since the epidemic of 1889-90. And during no previous epidemic of that disease has there been so great an increase of deaths from pneumonia, bronchitis, and so-called 'heart failures,' nor were they followed by so many severe and protracted sequelæ, characterized by a persistent sense of weariness, loss of muscular strength and nervous energy, frequent neuralgic and rheumatic pains, with impairments of the cardiac, respiratory, and digestive functions and unrefreshing sleep. A very large proportion of such patients readily refer the origin of their troubles to a severe attack of la grippe, often from one to three years previously, during which they took liberal doses of both anesthetic and antipyretic drugs, and have been taking more or less of the same class of remedies to relieve their pains, lessen

¹ *Jour. Amer. Med. Assoc.*, XXXVIII, No. 22.

nervousness, and encourage sleep at night ever since. Thereby they palliate, for a few hours after each dose, their pains and sense of exhaustion, and at the same time perpetuate the impairments of cardiac, respiratory, metabolic, and protoplasmic activity, until many of them become permanent invalids, or die suddenly from so-called heart failure."

IODIPIN AND PHOSPHORUS

Prof. Roberts Bartholow¹ has been conducting experiments with iodipin to which phosphorus has been added. The combination may be given internally, but he has been giving it hypodermically. The solution when injected causes some smarting and burning along the site of the injection, but this does not continue very long, and no inflammatory nodules are caused in or beneath the skin. In a day or two after the injection nothing but a red point marks the site where the needle entered. The best position for the injection is the depression on each side of the spinal column. It should be understood that certain special arrangements are necessary to effect the insertion of the medicament safely and conveniently. A 20-minim syringe, or an antitoxin instrument with a well-fitting piston, should be selected for this purpose. The needle should be of larger caliber than usual and should have a good cutting point. The instrument and the needle should be warmed so as to increase the fluidity of the solution and facilitate its flow through the needle and under the skin. Some force is necessary, but no special difficulty has been encountered in inserting the oily liquid.

The author says that it has been observed on the Continent of Europe [and in this country] that the largest doses of iodipin do not cause iodism. This is explained by the character of the combination of the iodine and sesame oil, whereby the former is given out so slowly that systemic effects do not appear. Nor have there been any of the toxic symptoms due to the action of phosphorus, although he has used as much as $\frac{1}{10}$ grn. repeatedly. Without any pronounced systemic action, iodipin-phosphorus promotes in a marked degree the nutrition, increases the body-weight, and removes or modifies the symptoms of various nervous affections not readily amenable to treatment.

The cases thus most favorably affected were examples of spinal sclerosis, anterior and posterior, neuralgia, neurasthenia, gout, chronic rheumatism, etc. The improvement in nutrition is so marked a feature of its ac-

tion that it is a promising remedy in pulmonary tuberculosis and other wasting diseases.

Professor Bartholow's experience in these maladies is not so extended as in the chronic nervous affections, but it warrants him in the assertion that will, probably, prove highly useful.

In a future paper the author hopes to deal more fully with iodipin-phosphorus in its physiologic and clinical aspects.

ESERINE IN CORNEAL AFFECTIONS

According to Dr. R. A. Katz,¹ eserine, by reducing intra-ocular tension, exercises a favorable influence over corneal suppuration, non-purulent keratitis, corneal infiltration, etc. He has obtained good results in three cases of keratitis from an ointment of eserine, $\frac{1}{2}$ grn. to $1\frac{1}{2}$ to 2 drams of the base, after the employment of atropine had only aggravated the process. Generally speaking, the author considers eserine preferable to atropine in corneal inflammations, excepting those cases in which an iritis is present or imminent.

IODOLINE

Iodoline is a substance² offered as a substitute for the iodides and iodoform. It is a compound (or mixture?) of iodole and albumin, and occurs in the form of a yellow powder, insoluble in water and alcohol. There are two forms on the market, the one for internal use containing about 10 per cent. of iodole, and the one for external use containing 36 per cent. of iodole. In tertiary syphilis it was given in doses of 30 grn. (in water or milk) six to ten times a day.

As a rule the drug was very well borne, but occasionally it did cause digestive disturbance and iodism. To prove beneficial, it must, however, be given in very large doses, 3 to 5 drams a day.

HYDRASTINE HYDROCHLORATE AN EXPECTORANT

Dr. M. Sanger³ considers the administration of narcotics irrational in most cases of bronchitis. They find an indication in cases of hemoptysis only. Among the various expectorants he considers hydrastine hydrochlorate as one of the best. He claims that it possesses a remarkable effect in loosening tenacious mucus and aiding its expectoration, in chronic bronchitis especially. He administers it in doses of $\frac{1}{2}$ to 1 grn., three or four times a day.

¹ *La Sem. med.*, XXII, No. 17.

² *Brit. Med. Jour.*, June 7, 1902.

³ *Wiener klin. Rund.*, 1902, Nos. 19-20.

¹ *Amer. Med.*, July 26, 1902.

FERISSOL

Ferissol¹ is a substance derived from cinnamic acid and guaiacol. It occurs in the form of a powder and is very soluble in water. The internal dose is 15 grn., one to three times a day. Intramuscularly it is injected in the form of a 10-per-cent. solution—15 minims per dose. This dose may be increased to 45 minims daily.

THE TREATMENT OF TETANUS

The tetanus antitoxin, or antitetanic serum, has on the whole, according to Dr. K. E. Kellogg,² proved a failure. It is an indefinite and unstable substance, varying in potency, and is inferior to chemical antidotes. Of the latter, carbolic acid appears to be the drug par excellence. The author thus outlines the treatment:

After the parts have been thoroughly incised and, in case of sloughing, the edges excised and all pockets exposed, and the parts thoroughly irrigated, a 0.5-per-cent. aqueous solution of carbolic acid should be injected in a circular manner surrounding the wound. If the case is seen late, and there are already evidences of a general absorption, it would be better that these injections be made along and on each side of the spinal column. Anywhere from 2 to 4 Cc. ($\frac{1}{2}$ to 1 dram) may be injected, and for the first few days the injections should be made frequently, every three or four hours. The injections should be diminished, according to the symptoms, both in frequency and in strength.

Similarly, at the appearance of symptoms of systemic poisoning, the strength and frequency of the injections should be diminished, but they should not necessarily be discontinued. In cases treated by this method, in some of the patients an improvement has been noticed within a few hours.

The following eight points favor carbolic acid as an important drug in the treatment of the disease: (1) Actual figures indicate as many cures from the use of chemical agents as from antitoxin. (2) The use of phenol does not contra-indicate the administration of antitoxin. (3) There are no exact methods of measuring tetanic antitoxin. (4) The antitoxin of tetanus is not destroyed by carbolic-acid solution. (5) Inasmuch as the antitoxin is not a stable article, we are not justified in continually saturating the system (which would appear essential) with this agent, of which we know comparatively little. On the other hand, of carbolic acid we know consider-

able, and we have a definite and reliable method of ascertaining its action and the extent to which it should be used. (6) Investigators have failed to save infected animals, even with immense doses of the antitoxin. (7) Cases have been treated alternately, first with the antitoxin and then with phenol, with more satisfactory results during the administration of the latter. (8) Three cases have been treated in New York recently with antitoxin, with three deaths.

PROTEST AGAINST TOO LARGE DOSES OF STRYCHNINE IN SHOCK

A number of surgeons have recently been recommending maximum doses of strychnine as a sheet-anchor in surgical shock. But the protestors were not long in making themselves heard. Dr. Gordon Sharp,¹ who is opposed to too large doses, reports the following case: A man of seventy, suffering from intestinal obstruction, had a colotomy performed under ether. The operation itself was perfect. He was given $\frac{1}{10}$ grn. of strychnine hypodermically before the operation, and another $\frac{1}{10}$ grn. soon after the operation. Later, at intervals, he was given $\frac{1}{20}$ grn. on three separate occasions. He got in all $\frac{7}{20}$ grn. When the effects of the ether had passed off, there were noticed twitching, great irritability of the reflexes, next clonic and tonic spasms of the vital reflexes, etc. For hours before the patient died it was impossible to get him to swallow anything, the least attempt in that direction being enough to induce a series of clonic spasms followed by a long tonic spasm. Large doses of chloral by the rectum had to be given to combat the toxic action of the strychnine. Dr. J. J. Pickles reports in brief a similar case.

MEDICINAL TREATMENT OF TUBERCULOSIS

While admitting the value of hygienic measures in the treatment of tuberculosis, Professor Errico de Renzi² properly contends that medicinal measures should not be neglected. As he points out, there need be no antagonism between the two, but the one should be made supplemental to the other. From this standpoint he discusses ichthyol, ichthoform and sodium salicylate as having rendered him most valuable service.

Ichthyol was employed especially in severe cases. The most pronounced and almost constant effect was amelioration of the bronchial catarrh, as manifested by diminution in expectoration and partial subsidence

¹ *Rev. de Therap.*, LXIX, No. 9.

² *N. Y. Med. Jour.*, July 12, 1902.

¹ *Lancet*, No. 4107.

² *Jour. Amer. Med. Assoc.*, June 21, 1902, p. 1669.

of râles. In addition there was progressive increase in weight and improvement in the general condition, with increased arterial tension and without unpleasant secondary effects. If possible, large doses should be administered for long periods of time. The drug may be given in pill-form, but it appears to be more efficacious when given in solution. The following formulæ have proved useful:

Ichthylol..... 3 vi
Syrupi Limonis.
Syrupi Auarantii Corticis, aa.... 3 iiss
Alcoholis, 80 per cent.,
Aquæ Destil., aa..... 3 ii

Take one teaspoonful in water three or four times a day.

Ichthylol..... 7 vi
Aq. Destil..... ii
Elix. Simplicis..... 3 vss

One dessertspoonful in a glass of water once or several times daily.

For the first week half a dessertspoonful of the mixture dissolved in half a glass of water was given morning and evening; in the second week this was given four times a day, and so on progressively until from 8 to 10 dessertspoonfuls were given daily, representing about 2 drams of ichthylol daily.

Another useful combination is the following:

Ichthylol..... 3 iiss
Syr. Simplicis..... 3 v
Aq. Ment. Pip..... 3 iiss

One dessertspoonful in a glass of water in two equal parts.

Generally, 2 dessertspoonfuls may be given at once and the dose be increased daily from 2 dessertspoonfuls until 2 drams of ichthylol are taken daily.

Ichthylol may be employed also by inhalation, a bit of cotton saturated with it being introduced into a respirator. It has proved particularly useful in correcting the offensive odor of the sputum.

Ichthoform, a product of the union of ichthylol and formaldehyde, is to be preferred to the former for therapeutic purposes on account of its freedom from taste and odor. It appears in the form of a brownish powder, which is insoluble in ordinary solvents. Its employment is indicated in cases attended with increased elimination of the ethereal sulphates (active intestinal fermentation, coprostasis, ileus, diffuse peritonitis, with intestinal atony or tuberculous enteritis). *Ichthoform* may be administered in doses of $1\frac{1}{2}$ grn. to 5 grn. from thrice to six times daily. Its general effects resemble those of ichthylol, an especially beneficial influence being exerted upon the intestinal derangements so common in

cases of tuberculosis, flatulence, intestinal pain and diarrhea being controlled.

Sodium salicylate may be used for the relief of fever. It can be given in doses of 15 grn. from four to six times daily, followed by from 6 to 8 oz. of water.

TREATMENT OF MALARIA

Dr. H. E. McKay¹ gives the following outline of the treatment of this frequent and obstinate affection:

In all cases of malaria the treatment should begin as soon as possible. In the simple intermittent form he invariably gives a dose of acetanilid to shorten the attack and relieve headache, and he continues its use every two hours until the sweating stage is reached. When vomiting is persistent, cocaine, $\frac{1}{16}$ grn., in cherry laurel water, or bismuth subnitrate every half hour, will soon overcome it so we can proceed with other medication. As soon as possible a good cathartic should be given, and nothing will act more satisfactorily than calomel and soda. Three grains are usually sufficient, and this is followed by sodium phosphate until the bowels act freely. After a thorough purgation we can control the patient and prevent the next chill with one-half the quinine that would otherwise be required. It is never good to begin the use of quinine until after the bowels have acted freely. We need not start our quinine until twelve hours before the paroxysm is due, and by giving it in solution we surely can bring our patient under the influence of the drug in plenty of time. The bisulphate is the salt the author usually administers, in syrup of orange-peel, and gives patient 4 grn. every two hours until six doses are taken. He then stops quinine for twelve hours, beginning again as on preceding day and giving it as before. As soon as danger of returning paroxysm is passed, patient should be put on a good iron and arsenic tonic and be instructed to look carefully after the bowels.

In the comatose and algid conditions the treatment must be one to sustain the patient. Start with hot foot-bath and give hypodermic injections of strychnine every three or four hours. Give an enema of hot water, to which a teaspoonful of turpentine should be added. Bismuth salts or cocaine, used as above, will usually control vomiting; however, if these measures fail, apply ice poultices to throat and neck of patient. As soon as patient's stomach is in condition to retain anything give a glass of hot milk, also full dose of ammonium bromide. If we can not get patient

¹ *Amer. Pract. and News*, XXXIII, No. 11.

to retain this, give an enema of hot milk and whisky. Sponge body often with hot water and alcohol. As soon as practicable, give 5 grn. of calomel, and follow this with sodium phosphate, 40 grn. every four hours until bowels act freely. Never delay the use of quinine longer than ten hours. If quinine can not be given by stomach, it must be given hypodermically every four hours until stomach becomes tolerant. The use of quinine must be kept up for forty-eight hours, and then a good iron tonic given. A prescription often used successfully is the following:

| | |
|--------------------------|-----------|
| Quinine Sulphate..... | 1 grn. |
| Reduced Iron..... | 1 grn. |
| Arsenous Acid..... | 1/50 grn. |
| Strychnine Sulphate..... | 1/40 grn. |
| Ext. Gentian..... | 1/4 grn. |

One every four hours.

Then have patient take sodium phosphate, 40 grn., the first thing every morning.

In hematuria the same treatment as above is used to control vomiting. Then calomel, 1 grn. every half hour until 6 or 8 grn. are given. This is followed by sodium phosphate, 30 grn. every three hours until bowels are thoroughly cleansed. Strychnine nitrate should be given every four hours. For bloody urine the author uses the following:

| | |
|----------------------------|-----------|
| F. E. Watermelon Seed..... | 2 oz. |
| F. E. Corn Silk..... | 1 1/2 oz. |
| Tr. Digitalis..... | 4 dr. |

Teaspoonful every three or four hours.

Turpentine stupes are applied to the stomach, and the patient is given plenty of seltzer water. The skin should be bathed often with warm water. It is seldom found necessary to give an opiate in these cases. If the fever goes high, give a 5-grn. dose of acetanilid every three hours. Give quinine after twelve hours, and keep up same from forty-eight to seventy-two hours, then put patient on tonic treatment as above. This treatment has saved twenty-eight out of thirty cases of hematuria for the author, and he thinks others can get equally as good results if the same treatment is carried out.

ACETOZONE

Acetozone is the new name which has been bestowed on benzyl-acetyl-peroxide, formerly known as benzozone. Dr. Eugene Wasdin¹ has experimented with the drug in typhoid fever, and his conclusions are:

(1) That the peroxide is efficiently germicidal under conditions favoring its hydrolyzation; (2) that it is innocuous to man

and animals, being readily secreted through the kidneys as hippuric acid; (3) that in the treatment of typhoid fever and other bacillary diseases it is directly applicable to destroy the primary colony, provided it can be brought into contact with it; (4) that its special application in typhoid fever enables us to obviate intestinal infection and absorptive toxemia therefrom, thus favoring the formation of protective anti-bodies, and limiting, in many cases, the disease to its normal cycle; (5) that in those cases of inefficient reaction in typhoid fever its use tends to make the patient much less uncomfortable, thereby offering better results from appropriate serum therapy.

The treatment pursued in all cases was as follows: Upon admission the bowel was thoroughly moved by 1-grn. doses of calomel combined with 1 grn. of aloin and 2 grn. of guaiacol carbonate every four hours, until the canal was well flushed. Also, the patient was given from 1500 to 2000 Cc. of the twenty-four-hour-old solution of acetozone daily [what strength solution?] The diet was milk, diluted with the acetozone-solution. In addition to the acetozone thus administered by mouth, the effort was made to reach the colonial area in the lung by means of forced inspiration of the atomized solution, but owing to the paresis of these areas and the well-known difficulty of atomizing the deeper structures, it is not known that the applications were of great benefit. In some cases the acetozone was given in capsules, 5-grn. doses with sugar of milk thrice daily. To meet high temperatures, cold sponge baths were used, and at times the full tub. In the twenty-seven cases treated there were no deaths.

TROPACOCAINE IN DENTISTRY

Dr. Felix Vogt,¹ dentist, has used tropacocaine in about 1,000 cases for the purpose of producing local anesthesia in extracting teeth and roots. He prescribes the following solution:

| | |
|-----------------------------|------------|
| Tropacocaine Hydrochlor.... | 1 1/4 dram |
| Sodium Chloride..... | 10 grn. |
| Water..... | 3 1/2 oz. |

This solution will keep for two weeks without losing its clearness or efficiency.

Very satisfactory results were obtained. Only in one case, that of a highly hysterical girl, a prolonged syncope supervened. As to the technique, several minims of the solution are injected into the gums, or, in children under ten years of age, the solution is painted on the gums.

Compared with cocaine, the new drug

¹ *Therap. Gazette*, XVIII, No. 5.

² *Oester. Ung. Viertel. f. Zahnheilk.*, 1902, No. 1.

has the advantage of being less toxic. Like all similar preparations, however, tropacocaine is contra-indicated in the presence of inflammation, because the drug increases the tension of the tissues and thus produces greater pain instead of analgesia.

Dr. J. C. Loeschke¹ also speaks favorably of tropacocaine as a local anesthetic in dental work, chiefly in extraction of the teeth. The hydrochlorate is preferable, and the average strength of the solution varies from 4 to 5 per cent. in normal salt-medium. The great advantage over other local anesthetics is the almost complete absence of toxicity. None of the unpleasant or even alarming symptoms complicating the use of cocaine, eucaine, nirvanin, etc., have been recorded when tropacocaine was employed. The injection of several minims of the solution mentioned produces local anesthesia in two or three minutes. More than 16 min. will seldom be required, even if more than one tooth is to be extracted.

The author cautions against the indiscriminate use of general anesthetics, and recommends tropacocaine as a safe and perfectly reliable substitute.

GENERAL MANAGEMENT OF INSOMNIA

Dr. L. L. Skelton² classifies the various causes of insomnia under the following heads: (1) Interferences with the normal withdrawal of stimuli; irritation of the sensory nerves; (2) irritation from visceral organs; (3) over-activity, irritable exhaustion of the cerebral neurons; (4) intoxications of the cerebral neurons; (5) hereditary unbalanced and irritable neurons.

In the general management of a case of insomnia we can utilize one or more of the following agencies: (1) The induction of muscle fatigue by walks in open air or by massage. Many people cannot sleep because their muscles are not tired and their nervous system is over-excited. (2) The clearing away of intestinal and hepatic accumulations by sodium sulphate and salicylate, combined or not with potassium citrate and lithia. This serves several purposes. Auto-intoxication is diminished, irritations from distended viscera are diminished, and circulatory equilibrium is aided. (3) The use of a hot bath. (4) Proper sleeping rooms.

In regard to the exact action of hypnotics and narcotics on the nerve cell, it is to be remembered that: first, the nerve cell is especially rich in fat; second, that the narcotic action of alcohols and chlorine compounds are proportional to their fat solubility; third, that fusion and diminution of the

granules of the cell occur after the use of the narcotics; fourth, these changes in the cell may interfere with function by altered chemical composition of cell contents directly or by causing a retraction of dendritic processes and interrupting neuronic continuity.

It is important to remember that all drugs of this class interfere with normal metabolism, are purely symptomatic in usefulness, that all are objectionable by reason of secondary and side effects, that they are used by reason of ignorance of the underlying cause of the symptoms, or our inability to control these causes.

In a general way we may formulate the indications for their use, viz.:

Insomnia from pain: Morphine, coal-tar products, and large doses of chloral.

Insomnia from increased reflex irritability: Chloral, trional, sulfonal.

Insomnia from delirium and chronic insanity: Hyoscyamine combined with morphine.

Insomnia from "nervousness," "worry": Bromides, given in sufficient doses—20 grn. three or four times in the daytime is incomparably the best and safest hypnotic.

It is to be reflected that morphine increases reflex irritability. The chlorals depress the medulla and are dangerous in heart and vascular diseases, lung, kidney and stomach irritability. Sulfonal and trional cause nephritis.

TINCTURES OF HAMAMELIS AND HYDRASTIS

On mixing tincture of hamamelis with tincture of hydrastis, a cloudiness or precipitate results. As this combination is often administered in drop doses, the precipitation presents a serious inconvenience; but this trouble may be easily prevented (according to Hamd¹), by adding 1 drop of hydrochloric acid to each ½ oz. of this mixture. The combination remains clear for a long time.

TO PREVENT PITTING IN SMALLPOX

Dr. T. C. Gibson² writes that the following is the best prescription he has ever tried to prevent pitting in smallpox:

Ichthyol,
Guaiaicol, of each.....2 dr.
Glycerin.....½ oz.

Apply locally with a feather three times a day.

The earlier it is commenced, the better the effect. The face should be bathed before each application with luke-warm water and soap.

¹ *Arch. f. Zahnheilkunde*, 1902, Nos. 22 to 23.

² *Clin. Review*, June, 1902.

¹ *Rev. méd. pharm. de Constantinople*, Feb. 15, 1902.

² *Amer. Med.*, May 10, 1902.

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AUGUST, 1902

EDITOR'S NOTES

Scrofula Is Not Tuberculosis

To the physician who received his instruction before Koch's discovery of the tubercle bacillus, scrofula and tuberculosis were two distinct diseases; diseases, in fact, which had nothing in common. It would have been a difficult thing to convince him that they were the same disease caused by the same *materies morbi*. But Koch's bacillus was established as the positive cause of tuberculosis; the same bacillus was later found in the glands of scrofulous individuals—not always, but sometimes. Ergo! scrofula is nothing but a variety of tuberculosis. The younger generation, without much clinical experience, accepted without any struggle this dictum of the laboratory physicians, and it shortly came about that the very term scrofula acquired a disreputable flavor; to use it meant to show one's backwardness. The old heads, those with a large clinical experience, who were not willing to sacrifice all their ideas at the altar of the microtome and the staining solution, kept their own counsel. The bacteriologists held the field all to themselves and the ordinary physician was hardly sure of an attentive and courteous hearing. However, within the past year or two there has come about a very noticeable revulsion of feeling. While not denying the importance and reality of the microbes as direct causative factors of disease, we are at last beginning to recognize—or, re-recognize, would be better—the paramount impor-

tance of the soil. The seed is important, the soil is still more so. Though we used to ridicule Lawson Tait, we are beginning to see that he was very near the truth when he strenuously insisted that it did not matter how many millions of germs entered a wound, provided the soil was not suitable for their germination. And now Sir Dyce Duckworth comes out boldly, denying the identity of the two affections. We are sorry we have not the space to quote more from his several articles, but the following from his latest communication to the *Lancet* will perhaps suffice:

"I . . . am content to hold with Watson, Paget, Simon, and many other *clinical* masters that there is a condition of body to which the term 'scrofula' is properly applicable. . . . Our duty to-day is to place Koch's discovery in its due relation to this diathetic strumous proclivity, and not to displace all the older views in regard to this matter. Scrofula is not tuberculosis, and tuberculosis is not scrofula, and if anyone were absolutely to affirm the contrary I should venture to regard him as but slenderly equipped with true clinical instincts. The modern views in question are the progeny of the pathological laboratory. They neither emanate from, nor are they chastened by, the discipline of the bedside."

We beg our readers to re-read the last three sentences carefully. The truth contained therein is applicable with equal force to many other matters of similar character.

* * *

Mrs. Eddy and Common Salt

MRS. EDDY, she of the brilliant intellect and luminous diction, recently enriched the world with the following important item of information:

"To quench the glowing flames of falsehood, once in about seven years I have to repeat this: that I use no drugs whatever, not even coffee, tea or red pepper, though every day, and especially at dinner, I indulge in homeopathic doses of common salt."

Dr. Sweringen thus comments on the above in the *Chicago Clinic*:

"I cannot understand why Mrs. Eddy should indulge in common salt even in homeopathic doses, since in 'Jahr's Manual of Homeopathic Medicine,' of the edition of 1838, four and a half pages are devoted to the effects of common salt. Its mental effects are described as follows: 'Melancholic sadness, with searching for many unpleasant things, much weeping and increased by consolation, sorrowfulness about futurity, anxiousness also during a thunderstorm,

chiefly at night, indolence, aversion to talk, joylessness and disinclination to labor, hasty impatience and irritability, easily frightened, hate of former offenders, fretfulness and disposition to angry violence, inclination to laugh, alternation of fretfulness and hilarity, great weakness of memory and forgetfulness, thoughtlessness and mental dissipation, misusing words in speaking and writing, inability to reflect and fatigue from mental exertion, awkwardness.' These are the effects which homeopathy attributes to common salt, which, if correct, will account for some of the idiosyncrasies, eccentricities, hallucinations, delusions, illusions, and peculiarities of Mother Eddy. I should advise her not to eat any more salt, even in homeopathic doses. It will certainly ruin her mental and physical constitution. We now know the cause of her 'thoughtlessness and mental dissipation and misuse of words in speaking and writing.' It is the use at dinner of homeopathic doses of common salt. Perhaps, if she should cease the eating of common salt, she would be better able to explain satisfactorily the occult, metaphysical intricacies of Christian Science."

In our opinion, not only common salt but every bit of food these latter-day lunatics take is a direct contradiction to their tenets and a refutation of their belief in the non-existence of matter. But who would expect logic and consistency from lunatics?

* * *

Vaccination Facts and Figures

PHYSICIANS are occasionally drawn into controversies with either lay or medical antivaccination cranks. Garbled statistics, distorted facts, or occurrences that did not occur, are presented, and unless the physician is well up in the subject he may not come out creditably from the contest. We advise everybody who desires to make an impartial study of the subject of vaccination to procure for himself the special vaccination number of the *British Medical Journal* (July 5, 1902) and devote to it two or three days. He will then be equipped to answer any fallacious argument or refute any garbled statistics. Some of the antivaccinationists—those who have still preserved a modicum of sanity—feel backward in denying that the mortality from smallpox is very, very much less than it was a hundred years ago, but instead of ascribing the diminished mortality to vaccination, they say that it is a direct result of improved sanitary conditions. A study of this number will show that, apart from overcrowding, there is absolutely no evidence of any connection between bad sanitary surround-

ings and smallpox; it will also show that we are fully justified, as the editor says, in the statement that as in Egypt the Angel of Death passed by the houses of the Israelites, whose doorsteps were sprinkled with blood, so in the recent epidemic in Glasgow, smallpox passed by those who had submitted to revaccination. In an article dealing with the "sanitation" argument of the antivaccinationists it is shown, by a convincing array of facts, that sanitation cannot account for the striking difference in liability to attack by smallpox in the vaccinated and unvaccinated respectively. We echo the editor's hope that "the present issue of the *Journal* may prove useful to medical practitioners as a storehouse of fact, figures, and general information relating to the most efficient protective agency against a deadly disease which has yet been discovered."

* * *

The Time Limit for the Reading of Papers

THE editor of the *Boston Medical and Surgical Journal* thinks that eight minutes is sufficient time for the reading of a paper. He says that it is unquestionably possible to condense into this period the salient features either of a clinical or a scientific report, leaving out all the extraneous and usually unessential details, which are so apt to creep into the ordinary medical contribution. We think the limit of eight minutes is rather too narrow, but agree that most of the papers are spread out unnecessarily. Leaving out all the padding—which may be reserved for publication in the medical journals, some of which are very patient in this regard—it should be possible to read any paper within ten to fifteen minutes. The reading off of technical details, blood-counts "before and after," complicated chemical tests, etc., should be frowned upon.

* * *

Dr. George H. Simmons

WE learn with regret of the serious illness of Dr. Simmons, the able editor of the *Journal of the American Medical Association*, and the secretary of the Association. Those who saw the doctor at the recent meeting in Saratoga could not fail to notice that he was a sick man, and it was only by the exercise of strong will power that he was able to attend to his duties. On July 13 he underwent an operation for gallstones, and a stone was removed from the cystic duct. The operation was successful, and it is hoped that he will be back at his desk, attending to his multitudinous duties, in about two months. We wish him a speedy and perfect recovery.

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

Percentage of Quinine Alkaloid in the Various Salts and the Solubility of the Latter

Dr. G. B. W. writes: Please give me the percentage of alkaloidal quinine in the various salts that are commonly employed, and also the solubility. I do not refer to the theoretical solubility given in the Pharmacopœia; that is, I do not wish to make fully saturated solutions, which are likely to crystallize on the slightest reduction of temperature. But I want to know how many parts of water are required to dissolve quickly one part of quinine salt, the solution to be permanent. Which are the best salts for hypodermic injection?

The following table should satisfy the demands of our correspondent:

| Name of Salt | Percentage of the Alkaloid in the Salt | Solubility in Cold Water |
|--------------------------|--|--------------------------|
| Sulphate..... | 73.5 | In 800 parts |
| Hydrochlorate..... | 81.8 | " 40 " |
| Dihydrochlorate..... | 72.0 | " 1 " |
| Hydrobromate..... | 76.6 | " 45 " |
| Dihydrobromate..... | 60.0 | " 7 " |
| Bisulphate..... | 59.1 | " 11 " |
| Phosphate..... | 72.8 | " 78 " |
| Valerianate..... | 75.7 | " 110 " |
| Lactate..... | 78.2 | " 10 " |
| Salicylate..... | 70.1 | " 225 " |
| Hydrochlorosulphate..... | 74.3 | " 2 " |
| Arsenate..... | 69.4 | slightly soluble |

The salts most suitable for hypodermic injection are the hydrochlorate, the dihydrobromate, and the disulphate.

Fothergill's Asthma Mixture

H. C. F.—The formula of Fothergill's asthma mixture is given as follows:

Ammonium Iodide.....2 drams
Ammonium Bromide.....3 drams
Tincture Lobelia.....5 fl. oz.
Syrup Tolu.....3 fl. oz.

Teaspoonful every one, two or three hours.

Inflammation of the Inguinal Gland

Dr. G. B. T. asks what to do in the following case: A male, age forty; inflammation of left inguinal gland; process was slow, induration deep, and painful to touch, but without rise of temperature and no history of any venereal trouble. Family history of tuberculosis. Applied to me about two weeks ago for relief. I applied kaolin-glycerin daily and ordered hot-water bag at night. The mass still continued to be firm and painful. One point showed evidence of pus; an incision was made and about 4 drams of pus evacuated. This gave relief for a few mornings, the incision being kept open with gauze. There is now but a

faint show of pus, the induration and pain still continue. The microscope showed the presence of staphylo- and streptococcus.

This seems to be an ordinary inflammation of the gland. The treatment was correct; should resolution fail to take place we would advise the injection into the gland of a few minims of a 5-per-cent. iodoform emulsion, or the external application of the following ointment:

Mercurial Ointment.....2 drams
Ichthylol.....1 dram
Belladonna Ointment.....5 drams

Use three times a day and keep covered with lint or oiled silk.

Aqua Sedativa

The formula of aqua sedativa or eau sedative de Raspail, is as follows:

Ammonia Water.....2 fl. oz.
Spirit Camphor.....1½ drams
Sodium Chloride.....1 oz.
Water, to make.....1 pint

A Question in Ophthalmology

Dr. C. W. J. asks: Will you inform me if the following, which I lately read in a medical journal, is correct: "Belladonna stimulates the sympathetic nerve powerfully, the radiating fibers (of the iris) contract and overcome the circular fibers, and the pupil dilates. Gelsemium paralyzes the circular fibers, and the radiating fibers unopposed dilate the pupil. Physostigmine contracts the pupil dilated by belladonna, but not the pupil dilated by gelsemium."

Some of the points regarding the action of belladonna, gelsemium, and physostigmine on the pupil are still *sub judice*; thus, for instance, the very fact of gelsemium causing dilatation of the pupil is denied by some. Ringer and Murrell assert that non-toxic doses of gelsemium cause contraction of the pupil, and dilatation of the pupil takes place only in cases of *poisoning* by gelsemium. The statement that physostigmine contracts the pupil dilated by belladonna, but not the pupil dilated by gelsemium, we are inclined to regard as correct.

Lassar's Paste

Dr. J. B. R. asks for an authoritative formula for Lassar's paste, and asks whether it usually contains tar or not.

Lassar's paste without any further specification contains no tar. Its ingredients are salicylic acid, zinc oxide, starch, and petrolatum. The quantities differ, but the following is most generally employed:

Salicylic Acid.....5 grn.
Zinc Oxide.....1 dram
Starch.....2 drams
Petrolatum.....1 oz.

In some formulas the amount of starch is given as 1 dram and the amount of petrolatum q. s. ad 1 oz.

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

The Hardship of State Limitation of License to Practice especially affects the following classes of physicians:

1. Those living near the boundary lines of States and whose patients live in two, three, or even in four States.
2. Those who because of ill-health, a professional call, or any other reason, are compelled to change their residence from one State to another.
3. Those who are frequently called from their residence State to another in consultation.
4. Those who spend their vacations of several months each year in other States, or who own summer homes there.
5. Young graduates who spend one or more years at home or abroad in postgraduate study, hospital service, etc., before choosing a residence and entering upon practice.
6. Army and Navy physicians who after term of service in the Army or Navy or Marine-Hospital Service wish to settle in private practice.

When we reflect that, taken together, these six classes of physicians make up a not inconsiderable portion of the numbers, and of the best men, of the profession, it is no wonder that there is a loud demand for some method of lessening the hardship they must undergo from the demand of the separate States that each shall pass a rigid examination before license to practise is allowed. The border-line physicians, at much expense of time and money, must undergo the examinations in two, three, or even in four States. Those moving into a new State must submit to an examination in branches which they may never have studied in their college days. To the consultant or the professor, even if he is able to answer the questions, the reëxamination is highly irritating and undignified. To the summer resident it is absurd that he can not treat his own patients or neighbors because he and they are not at home. To the young graduate, the reëxamination when he settles down is a punishment for his more thorough outfitting in special postgraduate study. Some rational and sensible method must be devised whereby so many honorable and capable men may be spared the duplicated and unnecessary examination. It is, in their case, unprofessional and un-American; let us have done with it.—*Amer. Med.*

A Canadian's "Look-in" at the American Medical Association.—Saratoga—full of sunlight, smiling men and women meeting, greeting, and tarrying for half a week of days to attend the annual convention of the great American Medical Association. The Convention Hall is well arranged for its purpose, and blessed alike, these many moons, by meetings of Sunday School Alliances, Distillers, Sons of the Morning, Sons of the Evening (the names are not copyrighted), Jew and Gentile; in fact, all sorts and conditions of men, running the social gamut, all the way up to the splendid fifteen hundred Knights of the Scalpel, who delved into the deepest scientific problems all day, and dined and danced far into the night. Saratoga, although of late years very cosmopolitan, is diplomatic in the extreme. She knows whom she is welcoming, and arrays herself fittingly to entertain her guests.

The enormous United States Hotel was "Head-quarters," and to join in the throng of promen-

aders upon its spacious verandas and lawns, whose huge trees were ablaze with lanterns and devices of colored lights, and listen to the concert, band and vocal, arranged in honor of the delegates, was indeed a pleasure. To drive through old Saratoga's streets under the avenues of trees out to the various springs, and play "follow-the-leader," until at last the funny man of the party, as we drew up at still another Spouting Geyser, relieved our sense of polite obligation (the water was offered freely) by laughingly saying, "You may drive a horse to water, but you can't make him drink"—any more! Sometimes discretion is the better part of valor. The closing evening of the Convention, the President's reception at the United States Hotel, was brilliant in the extreme, the handsome drawing rooms flower laden, the beauty of the costumes of the ladies and the kindness of the unwearied greetings of Dr. and Mrs. Wyeth and Dr. Comstock (Chairman of the Reception Committee), made all present feel glad to be there.

The museum of exhibits was also very fine, and the exhibitors vied with one another in courteous attentions to the visiting physicians. At the close of the meeting, as good-bye was said, all through the corridors echoed and re-echoed, "Till we meet again in New Orleans in May, 1903." Nothing succeeds like success, and the enthusiasm of the members carried all present alike in its flow-tide of good fellowship, like a leaf on a stream. Never for a moment did the Canadian guest feel himself an alien, nor even a stranger, and he has carried home a lasting and delightful memory and a big ache in his wrist as a souvenir of the heartily extended glad-hand of his "brother chips," and in his heart old Jack and young Glory float side by side.—*Can. Jour. Med. and Surg.*

Quack Advertising.—Not long since a man who had heretofore borne an excellent reputation in the profession entered the field of the advertiser. For some reason he had become dissatisfied with the rewards of the legitimate practice of medicine, and thought to increase his income by a resort to questionable means. In a conversation at a medical meeting not long afterward the action of this man was referred to, and the fact that patients were flocking to his office was lamented. The apparent success which this individual was achieving led to a discussion of the returns from professional advertising. A study of the field of quack medical advertising in the city of Chicago shows a considerable number of men who have gone from the ranks of the medical profession into the domain of the quack medical advertiser, but in no single instance have they been successful. One of the more recent and apparently most successful advertisers, using sometimes a whole page in one of the large dailies in exploiting his skill in the treatment of chronic diseases, has failed. His magnificent offices have been closed, and gradually the flaming advertisements have been lessened in extent, until now he is reduced to very modest quarters, and his name scarcely appears in the advertising columns of the daily papers. This has been the experience of most advertising specialists of late years. A few seem to be able to make a fair living by this means, but they are men who have devoted years to the study of the problem, and the same rules obtain in exploiting their business as in any other commercial enterprise. The returns, however, from the most successful are inconsiderable when compared with the ordinary professional incomes. When it is necessary to spend from seventy to ninety cents to get a dollar into the office the

profit is reduced so much that the business is ever verging upon failure. Some of the most imposing examples of quack advertising during the past few years show a loss. The individual to whom we have referred more particularly is at least \$200,000 in debt, a large share of which is due the lay press of Chicago, and it is believed by those who are conversant with the affairs of this man that, while his income was very large, running into many thousands of dollars a month, the actual outlay for offices, advertising, apparatus, etc., and the paraphernalia of an impressive quack, far exceeded the income.

What does this teach in reference to quack advertising? Why, simply that professional honesty is the best professional policy, and in the end it pays best. The fact is that professional incomes are not excessively restricted, notwithstanding so many statements to the contrary in the periodical medical press. Physicians are often extravagant, and their expenses are out of proportion to their incomes. Compared, however, with the ordinary practice of the profession, the way of the quack advertiser is vastly more difficult in a commercial sense. He has to have a far better grasp of financial matters than does the average physician, and the percentage of failures is much greater. Especially is this true of one who has been educated up to the ordinary ethical standpoints of the profession. When he is lured from the path of rectitude into the devious way of the advertising specialist, failure is inevitable. The quack, like the poet, is born, not made.—*Medicine*.

Mysteries of Vitality.—No man, not even a physician, seems able to accurately measure the vital resources of another. One day we hear with pleasure that our sick friends are out of danger and will be up and about in a day or two. Perhaps a few hours later we are shocked to learn of their death.

Such an outcome to a case after the doctor has confidently predicted a rapid recovery, is very mortifying.

Vitality has its natural ebbs and tides, but a sudden manifestation of energy and interest following severe depression, in a critical illness, is always to be regarded with suspicion. Physicians are often misled by their hopes and sympathies, and by appearances, in such cases, giving out a favorable verdict which must be soon reversed.

A sudden, causeless accession of animation in a man seriously ill, indicates a paralysis of the inhibitory faculty and a rapid using up of the reserves of strength, rather than a favorable change.

Some time ago a friend lost a favorite dog, which had been sick for some weeks. A day or two before he died, he roused himself and began digging furiously. The neighbors thought this cause for congratulation, but the owner lost hope from that moment.

In the case of the late Archbishop Corrigan, of New York, his pronounced mental activity a few hours before his death, led astray both physicians and friends. He was announced as being out of danger and convalescent while his system was making its last rally and life slipping rapidly away.

What is the lesson of this? It is that convalescents must be treated like the most delicate porcelain ware. They must be forbidden to talk, except to make known their wants which should be anticipated as far as possible. They should not be allowed to get out of bed until they have gained a measure of strength, and should be required to take nourishment at regular intervals

quite irrespective of appetite. They should be turned in bed, propped with pillows, when necessary to sit up.

The strength of a convalescent can be measured with some accuracy by means of his grip. A fairly strong grasp shows that inhibition is increasing and with it resisting power. Any physical exertion, even that of coughing or straining from constipation, becomes a source of danger until recuperation advances that far.

Bottle up your worn and exhausted convalescents until they are so charged with unused vital force that they become peevish and quarrelsome. Then you need no longer fear for them. They are once more of the earth earthy.—*Brief*.

Recent New Cures for Tuberculosis.—Not long ago, Doctors Richert and Hericourt, eminent French physicians, claimed to have cured many cases of well-developed pulmonary consumption with "zomol"—raw beef. Their experiments upon the lower animals, such as would eat raw meat, fully confirmed the hypothesis that this article has a specific and powerful antagonism to the phthisical taint. Dr. Hericourt claims that he cured thirty-five well advanced cases of consumption with this treatment.

It is such a pity that coincidences fool us so constantly, and so badly. And what a pity it is, too, that the highest intelligence is no guaranty against coincident entrapments. What brilliant men have electrified the world with glorified rhetoric, having reference to their medical discoveries, or to the unflinching certainty and punctilious promptitude of pet drugs in particular conditions. But a hungry oblivion had followed close at the heels of these mighty discoveries and drug prodigies, and with a malicious swish of its recessionary tail, it swallowed them. I remember that, while I was practicing at Indianapolis, a raw beef and fresh blood fad sprang up there. Every morning troops of consumptives would go down to the big slaughter-house to drink warm blood, and through the day they would eat quantities of uncooked beef. But the poor souls died of consumption just the same. This experiment has been tried uncounted thousands of times. Why, then, do these men launch it on the world as a new discovery? It strikes me as being of very doubtful credit to them.—W. C. Cooper in *Med. Gleaner*.

The Unexpected in Science.—When Lord Raleigh announced that the air contained other gases besides those which had for long been known to enter into its composition, there was for the moment a gasp of almost incredulous surprise. If anything were well known by chemists, surely it was the composition of the air. One new constituent suggested, however, the gas argon, was proved by many observations to have a real existence. A little later other elements, some of them hitherto unknown, were found to exist in appreciable quantities in the atmosphere. Among them was the gas of the metal helium, whose presence had been originally detected in the sun's atmosphere by means of the spectroscope. This metal received its name from its supposed existence in the sun alone, as no trace of it had ever been noted on the earth, yet it was now found to be present in the air we breathe. Ramsay and Travers have recently devoted their attention to five new gases in the air. These are, besides argon and helium, neon, crypton, and xenon. The chemic relations of these substances are now being determined, and their atomic weight varies from that of helium, which is 4, up to that of xenon, which is 128. The lesson of the unex-

pected discovery of these substances would seem to be that the truly scientific mind must hold itself in constant readiness for the acceptance of scientific progress even in the most unanticipated directions. Professor Liebreich, the distinguished Professor of *Materia Medica* and Pharmacology at the University of Berlin, and the well-known discoverer of a number of extensively used remedies, especially in the coal-tar series, says that our knowledge of the ingredients of remedial mineral waters is certainly not nearly as complete as our knowledge of the air was supposed to be before the discovery of these new gases. He insists that the mystery of the difference in therapeutic effect between genuine natural mineral waters taken at their source and artificial preparations supposed to represent them completely, may very well be due to the fact that our analytical knowledge of the substances dissolved in the mineral waters is as yet incomplete.—*Amer. Med.*

Javanese Method of Narcosis.—L. Steiner describes in the *Arch. f. Schiffs- u. Tropen-Hygiene*, v., 12, a method of narcosis which has been long practiced in Java. The hands are placed on the neck of the subject, the fingers meeting at the back, and the carotid artery is briefly compressed with the thumbs, back of and a trifle below the lower jaw. The artery is pressed back toward the spine. Only 5 out of 30 subjects failed to respond to his application of this maneuver. The head falls back and the subject seems to be in a profound slumber, from which he awakes in a few minutes as if suddenly aroused. The effect cannot be due to suggestion, as the same maneuver avoiding the arteries, fails to produce any effect. The procedure is called by a Javanese term which signifies "compression of the sleep vessel." The popular name for the carotid artery in Russian, by the way, is also the "sleep artery"; and "carotid" is derived from the Greek *karos*, sleep. He has never witnessed or heard of any accidents from this method of narcosis which is widely practiced on the island, frequently associated with general massage. The patients do not vomit, and there is no incontinence of urine or feces. He opened an inguinal abscess in one case while the patient was unconscious. He is inclined to advocate this absolutely harmless method of narcosis as worthy of a place in surgery, on account of the rapidity with which it can be accomplished and the rapid awakening. The procedure may also prove effective in combating cephalalgia, vertigo and insomnia.—*Jour. A. M. A.*

Eddyism Defining Itself.—The influence of Mrs. Eddy is infinitely harmful. It is literally derationalizing thousands of people. It is remorselessly separating husband and wife, parent and child. It is turning from the pursuit of knowledge and steeping in the superstition of the Middle Ages, untold thousands. It is the mother and promoter of a new-old witchcraft, which has so taken possession of the minds and lives of many people that they live in constant terror of its believed baneful work. Unless you know it to be a fact, as I do, that right here in the city of Boston there are hundreds and hundreds of people living in the confident belief that the malicious minds of others have the power to cause, and are causing, disease and death and all forms of domestic, social and business disaster, it will be difficult for you to believe it. This belief amongst Christian Scientists has reached the proportions almost of panic. (Address by F. W. Peabody, Esq.)—*Modern Med. Sci.*

Correspondence

Lobar Pneumonia in Infants

Editor MERCK'S ARCHIVES:

Many of the younger practitioners, and not a few of the older ones, are under the impression that lobar pneumonia is confined to adults and children, some text-books taking the same view, and that broncho-pneumonia is the only pneumonia an infant can acquire.

This is a mistake. Lobar pneumonia is not rare in infants; it simply is not detected. We are apt on seeing our young patient to ascribe the restlessness, rapid breathing, temperature, quick pulse, and cough, to a bronchitis, teething, or a gastro-intestinal affection, and to prescribe the usual fractional dose of mercurous chloride, followed by some simple remedy, more as a placebo. If no improvement follows, we examine the chest.

We must also remember the clinical symptoms are entirely different, as with infants we have no rusty sputum, with which to clinch the diagnosis.

I have had three cases of lobar pneumonia in infants under one year, within a comparatively short time. In these cases there was cough, temperature varied from 102° to 104°. Respiration, 40 to 60. Pulse, 140 to 200.

For the cough, I do not think there is anything better than Dover's powder, gr. ½ to gr. i, every six hours, according to age. Objections are made that opium dries up the secretions, but the objectors forget that it does *not* do it when combined with ipecac; quite the contrary, and from its diaphoretic effects, likewise has a tendency to decrease the temperature. The administration of squill, senega, combined with carbonate of ammonia, is ridiculous; there is nothing to expectorate. The hot poultice I emphatically condemn. It is heavy, soggy, requiring too much manipulation, and so trying to the infant.

For the collapse that so frightens the mother, and the inexperienced practitioner still more, I give the hot mustard bath, ten or fifteen minutes, until the skin becomes reddened. To stimulate the respiration, atropine by mouth. To stimulate the heart, strychnine or brandy by mouth. As regards dosage, that depends; the dose required is the dose that gives the proper effect, but under no circumstances prescribe any drug, unless the symptoms call for it. To reduce the temperature, the sponge bath. I am well aware the mother has a fear of cold water, but by suggesting the addition of alcohol, you can allay her apprehension. In the mind of the average lay woman, alcohol is the remedy where rubbing is required.

See that the infant gets the proper amount of nourishment, breast or bottle, but do not force the feeding. A competent nurse is a great part of the treatment. WM. HIMMELSBACH, M.D.,

San Francisco, Cal.

Has the True Ring

Editor MERCK'S ARCHIVES:

My Dear Doctor.—Shake! That editorial on "The Growing Appreciation of Therapeutics" is O.K. It has the true ring of the true doctor. *Do it more.* Fraternally, W. C. COOPER.

For the Relief of Headaches

Editor MERCK'S ARCHIVES:

Dionin, combined with sodium salicylate and citrated caffeine, is a fine combination to relieve headaches. J. A. SMITH, M.D.

Durham, N. C.

Book Reviews

THE CRIME OF CREDULITY. By Herbert N. Casson. We should like to see this book reach a sale of ten million. In saying this, we do not mean that we agree with every one of the author's statements, or that the book is faultless. On the contrary, the book seems to have been hurriedly written, and the author makes some misstatements. He is also rather careless in placing on the same plane the Christian Scientists—insane ignoramuses or money-making schemers—and the mental scientists, many of whom are among the best and most earnest people with whom it has been our good fortune to come into contact. But in spite of some minor faults of omission and commission, we should like to see the book reach an immense circulation. At the present time, when half of our nation seems to have thrown logic and common sense to the wind, when there is no vagary absurd enough, no inanity silly enough to bar it from obtaining a foothold, such a book is a necessity. A careful perusal of it will act as an antidote against the poison of superstition and humbug, against the poison of hysteria and dementia, which are at present affecting so many people, especially of the gentler sex. Of course, we do not delude ourselves with any hope that the book will have any effect on the out-and-out Christian Scientist—he is beyond hope and redemption; but there are many people that are, so to say, still on the borderland. While lending a willing ear to the vari ous vagaries they are still open to reason and argument. And these borderland people Mr. Casson's book may help to lead back to the path of sanity and common sense. The two last chapters, "The Rational Basis of Optimism," and "A Plea for Rationalism," are the best in the book. (Peter Eckler, 35 Fulton street, Brooklyn, N. Y. Price: paper, 35c.; cloth, 75c.).

This ninth volume of the **SYSTEM OF PHYSIOLOGIC THERAPEUTICS**, edited by Solomon Solis Cohen, is devoted to hydrotherapy, thermotherapy, heliotherapy, phototherapy, balneology, and cromotherapy. The last is a newly coined word, denoting spring-treatment or treatment at a spa. Whether the word will take in this country or not we do not know, but there is no question that there is a real need for such a word. The principal authors of this volume are Prof. Wilhelm Winternitz, of Vienna; Dr. Alois Strasser, Dr. B. Buxbaum, and Prof. E. Heinrich Kisch, of the University of Prague. There are also special chapters on the classification of mineral waters, by Dr. A. C. Peale, of the National Museum in Washington; on the practice of phototherapy and thermotherapy, by Dr. J. U. Kellog, of Battle Creek, Mich., and on saline irrigation and infusion, by Dr. Harvey Cushing, of Johns Hopkins Hospital. We have not the space here to go into an extended review of the large volume of 570 pages, but we think that this is the best volume of the six that have so far made their appearance. (P. Blakiston's Son & Co., Philadelphia. Price: eleven volumes complete, \$27.50.)

The second volume of **PROGRESSIVE MEDICINE** for 1902 is devoted to the following subjects: Surgery of the abdomen, including hernia, by William B. Coley; gynecology, by John G. Clark; diseases of the blood and ductless glands; the hemorrhagic diseases, metabolic diseases, by Alfred Stengel; and ophthalmology, by Edward Jackson. We have commented several times be-

fore on the excellence of this quarterly digest of the medical and surgical sciences, and this volume is fully up to the standard of the previous ones. (Lea Bros. & Co., Philadelphia or New York. Four vols. per annum. Price, cloth, \$10).

COMPEND ON SPECIAL PATHOLOGY, by Alfred Edward Thayer. This is a new quiz compend, No. 18 in Blakiston's series. Dr. Thayer's digest on general pathology was favorably received, and we have no doubt that this little work on special pathology will also well serve the purposes for which it was written. (P. Blakiston's Son & Co., Philadelphia. Soc. net.)

Pamphlets Received

- I. The History of the Invention and of the Development of the Ophthalmoscope. By Harry Friedenwald, M.D., of Baltimore, Md. II. Hermann von Helmholtz: the Inventor of the Ophthalmoscope. By Casey A. Wood, M.D., of Chicago, Ill. Reprints from "Jour. Amer. Med. Assoc."
- Superheated Compressed Air in the Therapeutics of Chronic Catarrhal Otitis Media. By Geo. W. Hopkins, M.D., of Cleveland, O. Reprint from "Annals Otol., Rhinol., and Laryng."
- The Treatment of Suppuration in the Uterine Appendages. By Chas. P. Noble, M.D., of Philadelphia. Reprint from "Amer. Med."
- The Rational Treatment of Typhoid Fever. By Lucien F. Salomon, M.D., of New Orleans, La. Reprint from "New Orleans Med. and Surg. Jour."
- The Half-Hitch Suture: A new Suture for Use in Anterior Colporrhaphy. By Chas. P. Noble, M.D. Reprint from "Amer. Jour. of Obstetrics," etc.
- The New York University Bulletin of the Medical Sciences (vol. II., No. 2). Conducted by the New York University Medical Society.
- Wurzbürger Abhandlungen aus dem Gesamtgebiet der praktischen Medizin (vol. II., No. 7).—Die Bedeutung der Neuronenlehre für die allgemeine Nervenphysiologie. Von Prof. Dr. F. Schenck, Marburg. Würzburg: A. Stuber's Verlag.
- Seventeenth Annual Report of the General Memorial Hospital for the Treatment of Cancer and Allied Diseases. New York.
- The Fifty-Ninth Annual Report of the Mount Hope Retreat. By Chas. G. Hill, A.M., M.D., of Baltimore, Md.
- Toxins: Their Origin, Influence, Evidences, and Treatment by a New and Rational Process, with Special Reference to Tuberculosis. By H. C. R. Norris, M.D., of Winnetka, Ill.
- Abdominal Hysterocolpctomy: A New Operation for Removal of Cancer of the Cervix Uteri. By John H. Glason, M.D., of Manchester, N. H. Reprint from "Phila. Med. Jour."
- Asepsis in Dental Surgery. By Wm. J. Lederer, D.D.S., of New York. Reprint from "Med. Record."
- On the Treatment of Fracture of the Anatomical Neck of the Humerus by the Aid of the Röntgen Rays. By Carl Beck, M.D., of New York. Reprint from "N. Y. Med. Jour."
- The Pathology of the Tissue Changes Caused by the Röntgen Rays, with Special Reference to the Treatment of Malignant Growths. By Carl Beck, M.D. Reprint from "N. Y. Med. Jour."
- Is Adrenalin the Active Principle of the Suprarenal Gland? By T. B. Aldrich, of Detroit, Mich. Reprint from "Amer. Jour. Physiology."

The Doctor Woman

As I sat shaking in my lonely bed.
I ONCE was sick. Oh, heavens, how I ached!
My eyeballs bloodshot in their sockets rolled;
My skin was dry, my mouth and throat were
baked,

While up and down my back ran streaks of
cold.

Sometimes a cramp would bend me like a bow,
And then I'd stretch like Goodyear's gum
elastic,
When suddenly a pain from depths below
Would shoot across the region epigastric.

And add to this—oh, sad it is to tell!—
I had no wife, no servant near me;
Was stopping at a very poor hotel,
And tried in vain to make the waiters hear me.

I thought at length that I must surely die,
So seized a bootjack, lying on the floor,
And with the little strength I had, let fly
That useful implement against the door.

A female Dutch domestic in the hall
Was roused at last by this tremendous clatter,
And angrily responded to my call
With "Vell now, mishter, vot ish all de mat-
ter?"

"Matter!" I cried, my patience lost entire,
"I'm sick and dying; if you are but human,
Send for a doctor, or I shall expire!
Oh, for a doctor! Quick! A doctor, woman!"

"Yah!" roared she out, "a Doctor Voman. Vell,
I sends you von right off!" Away she sped.
But what my feelings were I dare not tell.

Then came a tread of feet along the floor,
And, with a voice quite loud enough for two
men,
That Dutch domestic opened wide the door,
And, grinning, shouted, "Here's de Doctor
Voman!"

And there she stood, a picture; rosy cheeks,
A blue, clear eye, whose depths were almost
killing;

Her lips were rubies, pouting when she speaks.
With pearls of teeth without a speck of filling.

She took a chair and sat beside my bed,
And placed her tiny hand upon my brow;
And as she softly smoothed my aching head,
She sweetly whispered, "Are you better now?"

"I—I—I really think I do feel better."
(She was so graceful, modest, fair and young,
And asked so very sweetly if I'd let her
Look for a moment at my horrid tongue.)

"How is your heart," she asked, "that fount of
life?"

Does palpitation ever break your rest?"
And then (this part I never told my wife)
She laid her head, to listen, on my breast.

Forthwith the fever left me, and a thrill
Of life and health went bounding thro' my
veins;

I never took—I kept—the little pill
She left as sure specific for my pains.

And when I told my wife how sick I'd been,
The story of my suffering greatly shocked her;
I told her 'bout my pains, my aches, the inn,
But did not mention much about the doctor.
—Dr. W. T. Helmuth in *Maryland Med. Jour.*

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Miscellany

Now instructive, now amusing—but always interesting
and worth reading

OVEREATING AND MORALITY.—At a recent purity congress held in Chicago a vegetarian delegate read a curious paper on diet. He stated that much of the immorality in the world was due to the eating of animal food. "The cook," he said, "often leads to more drunkenness and excess than the saloonkeeper. Highly seasoned rich animal foods lead to indigestion and ill-health. Ill-health weakens the will, and a weak will breaks down the moral character. Total depravity is often nothing but total indigestion."

This reasoning reminds one of the old conundrum: "Why is home like a baby?" the answer being: "Because home is where the heart is; the heart is in the chest; a chest is a box, box is a small shrub, a small shrub is a growing plant, a growing plant is a beautiful thing, a beautiful thing is a primrose, a primrose is a pronounced 'yeller,' and a pronounced 'yeller' is a baby.—*Ex.*

The *New York Times* tells of a New York lady who had a slight cold. She was advised by a faith healer to consult one of the cult, but she declined to accept the suggestion. Later the cold disappeared, but in its place came a bill for \$5 with the information that by absent treatment she had been cured by a healer she had never seen. The bill was ignored, but it was followed by others in quick succession, and finally, from a truly American distaste for a row, it was paid.—*Modern Med. Sci.*

STRANGE BEDFELLOWS.—Little Tommie had been put to bed alone. It was upstairs, and the thunder rolled and lightning flashed unmercifully. He lay quietly until he could no longer stand it, and then his little nightgowned figure appeared at the head of the stairs.

"Ma!" he cried.

"Yes, my son," came the calm rejoinder.

"I'm afraid, ma. It thunders so, and I'm all alone."

"Go back to bed, Tommie," came his mother's voice. "Don't you know nothing can hurt you?"

Tommie went back to bed, but not to stay.

"Ma!" he cried again, and this time the little figure was half-way downstairs.

"Tommie," called his mother, "don't you know I have told you nothing can hurt you? God is always with you."

"Then, ma," and this time there came an audible sniff from the weeping Tommie, "you come up and sleep with God and let me sleep with pa."—*Lippincott's Magazine.*

THE VIEW-POINT IN MEDICINE.—If asked such questions as "How are you getting along?" "How is everything?" "How does the world use you?" nine out of ten will reply in a way going to show that in calculating the degree of success dollars and cents is the factor with which we compute our progress. Such answers as "I find plenty of opportunity to do good." "Nothing delights me more than the practice of my profession," are rarely heard. "Business is bad" or "business is good," or "collections are slow" or "collections are brisk," are the replies most likely to be received, not only in commercial life but in professional as well. It is said that we get what we want in this world. If money be the chief object for which we strive, its accumulation will be the *summum bonum* of life; if something

else—professional honor, scientific investigation, public beneficence—these, too, may be realized. Is it not often true with many of us that what we are hoping to make is secondary only to what we fear we may lose? As professional men—physicians—do we not find ourselves reckoning, too often perhaps, financial gain rather than fraternal good? The sum of our success cannot always be told in figures. When the steward comes to give an account of his stewardship, success will not depend altogether upon the multiplication of the one or the two or the five talents, as the case may be, but rather upon the uses to which they have been put. It may be asked "Are we not entitled to pecuniary reward?" Certainly. But viewed from the higher plane it must ever be incidental and subservient. Our mission is to heal. More than seven centuries ago Maimonides, one of the greatest physicians of the Middle Ages, offered the following prayer: "May the love of my art actuate me at all times, may neither avarice, nor miserliness, nor the thirst for glory or a great reputation engage my mind; for, enemies of truth and philanthropy, they could easily deceive me and make me forgetful of my lofty aim of doing good to Thy children. Endow me with strength of heart and mind, so that both may be always ready to serve the rich and the poor, the good and the wicked, friend and enemy, and that I may never see in the patient anything else but a fellow creature in pain." A better motto has never been formulated than the one of Æsculapius, Hippocrates and Aristotle—one that should ever influence the physician in the unselfishness of his chosen calling: "Not for ourselves alone."—*Ex.*

INVENTED DOVER'S POWDER.—Since Mark Twain at a recent dinner in this city went into the subject of old-time physicians and their methods, an investigation has been proceeding in England into ancient cures and their authors, with the result that some strange and little-known facts have been brought to light.

Who, for instance, knows anything about Dover, who immortalized himself by discovering "Dover's Powder," which is in daily use in many countries of the world and is a regular stand-by? Many people had supposed that this worthy lived in comparatively recent times and that he belonged in the category with Bright, of "Bright's disease" fame; Murphy, the discoverer of "Murphy's button," and McBurney, after whom "McBurney's Point" is named.

The singular fact, however, has been brought to light that Dover was not only the author of one of the earliest "roasts" on the Royal College of Physicians, but that he discovered Alexander Selkirk on the Island of Juan Fernandez and brought him away. At least that is what *The Chemist and Druggist* says.

Out from some dust heap of the past there has been fished Thomas Dover's sole contribution to literature. It was published in 1732, when he was past seventy years of age, and bore the following title:

"The Ancient Physician's Legacy to his Country—Being what he has collected himself in Forty-nine Years' Practice. Or an Account of the Several Diseases incident to Mankind, described in so plain a Manner that any Person may know the Nature of his own Disease. Together with the several Remedies for each Distemper faithfully set down. Designed for the Use of all Private Families." Herein Dover's famous formula was contained.

(Continued on p. xiv)

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MEETINGS OF NATIONAL MEDICAL SOCIETIES

| NAME | ANNUAL MEETING | WHERE HELD | SECRETARY |
|---|-----------------------------|--------------------------|--------------------------------------|
| American Academy of Medicine..... | —, 1903..... | Columbia, Pa..... | A. R. Craig. |
| Academy of Railway Surgeons..... | October 2-3, 1902..... | Kansas, Mo..... | T. B. Lacey, Council Bluffs, Ia. |
| Anatomists, Association of..... | —, 1903..... | Washington, D. C..... | D. S. Lamb, Washington, D. C. |
| Assn. of Genito-Urinary Surg..... | —, 1903..... | Washington, D. C..... | John Van derpool, New York City. |
| Assn. of Obstetricians & Gyn..... | Sept. 16-18, 1902..... | Washington, D. C..... | W. W. Potter, Buffalo, N. Y. |
| Assn. of Military Surgeons of the U S | —, 1903..... | —, 1903..... | Major J. E. Pitcher, Carlisle, Pa. |
| Assn. for Study & Cure of Inebriety | October 20, 1902..... | —, 1903..... | T. D. Crothers, Hartford, Ct. |
| Climatological Association..... | —, 1903..... | —, 1903..... | Guy Hinsdale, Philadelphia, Pa. |
| Dermatological Association..... | Sept. 18, 19, 20, 1902..... | Boston, Mass..... | F. H. Montgomery, Chicago, Ill. |
| Electro-Therapeutic Association..... | Sept. 2, 3, 4, 1902..... | Catskill Mts., N. Y..... | Geo. E. Bill, Harrisburg, Pa. |
| Gastro-Enterological Association..... | May 1, 1903..... | Washington, D. C..... | Chas. D. Aaron, Detroit, Mich. |
| Gynecological Society..... | May 5-7, 1903..... | Washington, D. C..... | J. R. Goffe, New York City. |
| Laryngological Association..... | May 12-14, 1903..... | Boston, Mass..... | Jas. E. Newcomb, New York City. |
| Larynx, Rhin., and Otol. Society..... | —, 1903..... | —, 1903..... | Wendell C. Phillips, New York City |
| Medical Association..... | June, 1903..... | New Orleans, La..... | Geo. H. Simmons, Chicago, Ill. |
| Medical Editors' Association..... | —, 1903..... | —, 1903..... | O. F. Ball, St. Louis, Mo. |
| Medical Colleges, Assoc. of..... | —, 1903..... | —, 1903..... | Bayard Holmes, Chicago, Ill. |
| Medico-Psychological Assoc..... | —, 1903..... | —, 1903..... | C. B. Burr, Flint, Mich. |
| Neurological Association..... | —, 1903..... | New York City..... | G. M. Hammond, New York City. |
| Ophthalmological Society..... | —, 1903..... | —, 1903..... | S. B. St. John, Hartford, Conn. |
| Orthopedic Association..... | —, 1903..... | Phila., Pa..... | John Riddell, Chicago, Ill. |
| Otological Society..... | —, 1903..... | —, 1903..... | F. L. Jack, Boston, Mass. |
| Pediatric Society..... | —, 1903..... | —, 1903..... | S. S. Adams, Washington, D. C. |
| Physicians, Association of..... | —, 1903..... | —, 1903..... | H. Hun, Philadelphia, Pa. |
| Protologic Association..... | —, 1903..... | —, 1903..... | W. M. Beach, Pittsburgh, Pa. |
| Public Health Association..... | December 1, 1902..... | New Orleans, La..... | C. O. Probst, Columbus, Ohio. |
| Surgical Association..... | —, 1903..... | Washington, D. C..... | Dudley P. Allen, Cleveland, O. |
| Therapeutic Society..... | —, 1903..... | Washington, D. C..... | Noble P. Barnes, Washington, D. C. |
| Canadian Med. Association..... | —, 1903..... | Winnipeg, Can..... | F. N. G. Starr, Toronto, Canada. |
| Con. of State and Prov. Bds. of Health of | —, 1903..... | —, 1903..... | —, 1903..... |
| North America..... | December, 1902..... | New Orleans, La..... | G. F. Swarts, Providence. |
| International Assn. of Railway Surg..... | May, 1903..... | Indianapolis, Ind..... | L. J. Mitchell, Chicago, Ill. |
| Mississippi Valley Med. Assoc..... | October 15-17, 1902..... | Kansas City, Mo..... | H. E. Tulev, Louisville, Ky. |
| Missouri Valley Med. Soc. of the..... | September 18, 1902..... | Sioux City, Ia..... | Chas. W. Fassett, St. Joseph, Mo. |
| Nat. Con. State Med. Exam. & License | —, 1903..... | —, 1903..... | —, 1903..... |
| Boards..... | —, 1903..... | —, 1903..... | —, 1903..... |
| Roentgen Society of the U. S..... | —, 1903..... | —, 1903..... | A. W. Suito, Herkimer, N. Y. |
| Seaboard Medical Association..... | December 15, 1901..... | Norfolk, Va..... | J. Rudis Jicinsky, Cedar Rapids, Ia. |
| Southern Med. College Assoc..... | —, 1903..... | —, 1903..... | John R. Bagby, Newport News, Va. |
| Southern Surg. & Gyn. Assoc..... | November 12-14, 1902..... | Cincinnati, O..... | G. C. Savage, Nashville, Tenn. |
| Tri-State Med. Soc. of Ala., Ga. & Tenn. | October 8-10, 1902..... | Birmingham, Ala..... | W. D. Haggard, Jr., Nashville, Tenn. |
| Med. Soc. of Iowa, Ill. & Mo..... | April 2-3, 1903..... | Hannibal, Mo..... | Frank T. Smith, Chattanooga, Tenn. |
| Med. Soc. of Md., W. Va. & W. Pa..... | —, 1903..... | —, 1903..... | W. B. La Force, Ottumwa, Ia. |
| Western Ophthal and Oto-Laryng. Assn. | April 9-11, 1903..... | Indianapolis, Ind..... | Percival Lutz, Alaska, W. Va. |
| Western Surgical and Gynecological As- | December 29, 1902..... | St. Joseph, Mo..... | D. T. Vail, Cincinnati, O. |
| sociation..... | —, 1903..... | —, 1903..... | Geo. H. Simmons, Chicago, Ill. |

(Continued from p. x11)

Dr. Dover felt he had a message to deliver, and he had but little faith in the "clan of prejudiced gentlemen," as he termed the Royal College of Physicians. They returned his contempt, or, more probably, they began the squabble, for Dover tells in his book that they had referred to him in derision as "the quicksilver doctor." But it was a title in which he gloried. He had immense faith in quicksilver, "this precious jelly of metals, as it may be called." It makes "a pure balsam of the blood," he says. "You all give it," he adds, "but you disguise it. I give it in an honest, open manner. You give it combined with sulphur, the worst excipient you could find, in the form of Ethiop's mineral. That is like striking a man with a sword in a scabbard."

"Their opinion is a sign they have traveled far at home." He advises them to "take a trip to Hungary and visit the mines where the quicksilver is dug. They may there see slaves working entirely naked to prevent them stealing the metal." But these slaves, it appears, dodged their taskmasters by swallowing every day so much that they buy a choppin of drink with it at night."

Dover was born somewhere in Warwickshire in 1660. How he got his medical training is not known, but some time in his youth he lived in the house of the famous physician Sydenham. There he had smallpox, and his treatment is worth recording. First he was bled to the extent of twenty-two ounces, and then he had an emetic. It was January; he had no fire in his room, the windows were always kept open, and the bedclothes were only allowed up to his waist. The medicine he took was twelve bottles of small beer, acidulated with spirit of vitriol, every twenty-four hours.

Having resisted both the disease and the treatment, he is first heard of in practice at Bristol in 1684. He plodded on there till 1708, when at the age of forty-eight he set out with a privateering party on a voyage round the world. They had two ships, the *Duke* and the *Duchess*. Capt. Woodes-Rogers, who has left an account of the expedition, was in chief command, and Dover, who had charge of the *Duke*, was his second. He must have been on the sea in his early life, or he would hardly have been chosen to command a vessel. The buccaneers were away from England three years, and they came back with a Spanish frigate of twenty-one guns and lots of loot.

Among the other events of the voyage was one of world-famous importance. On Feb. 2, 1709, Dover touched at the Island of Juan Fernandez, and brought away from it Alexander Selkirk, who had been there alone four years and four months, and who was the prototype of the immortal Robinson Crusoe.

A few months later the expedition landed at Guayaquil, in Peru. Having sacked the city and stored their plunder in the ships, the sailors slept in the churches, and Dover records quaintly how they were annoyed by the smell of the corpses. For plague was raging in the place at the time, and the victims were laid just below the floor, with only a plank or two to cover them. Forty-eight hours later, after they had again put to sea, a large number of the sailors were attacked by the disease. One hundred and eighty of them altogether had it.

Dover, who had four surgeons under him, ordered them to be bled freely, and he says about 100 ounces of blood was taken from each man. The surgeons went round and started the bleeding, and only stopped it when they had made

their rounds. Then he gave them spirit of vitriol, and only seven or eight died.

Returning to England, Dover practiced in Cecil street, London, till 1728, when he is again missed for two or three years. From 1731 to 1736 he lived in Arundel street, Strand. There he wrote his book, in the preface of which he quotes Dr. Radcliffe's opinion that it is expedient that young gentlemen entering our profession should travel. "If traveling be necessary to make an accomplished physician," Dover remarks, "I am very sure that I have traveled more than all the physicians in Great Britain put together."

His diaphoretic powder is prescribed in his book in a chapter on gout. The formula differs, but the resulting compound is practically the same thing that is called Dover's powder. The original formula was as follows:

"Take opium 1 ounce, saltpetre and tartar vitriolated each 4 ounces, liquorish 1 ounce, ipecacuanha 1 ounce. Put the saltpetre and tartar into a red-hot mortar, stirring till they have done flaming. Then powder them very fine; after that slice in your opium; grind these to a powder, and then mix the other powders with these. Dose: From 40 to 60 or 70 grains in a glass of white wine posset going to bed, covering up warm, and drinking a quart or three pints of the posset-drink while sweating.

"In two or three hours at furthest the patient will be free from pain; and, though before not able to put his foot to the ground, 'tis very much if he cannot walk next day. The remedy may be taken once a week or once a month."

A sidelight on the relations between doctors and apothecaries in the early days of the eighteenth century is thrown by Thomas Dover's treatise. In a chapter on *ague* (for which he says bark is the best medicine known to mankind, though he wishes he could have the resinous quality of it separated from the earthy part) he remarks that he cannot prescribe to please the apothecaries. He cannot "bring a fever case to £3," though he has known apothecaries who have run up their bills in such cases to £40, £50, or £60. Every time a physician writes, he says, it is supposed to put 10s. or 12s. in the apothecary's way. Then as a postscript, he prints the following on the last page:

"N. B.—Having taken notice of some errors in the practice of other physicians, I shall frankly own one in my own; I have hitherto been too zealous in recommending one particular apothecary, but am resolved, for the future, to let all my patients make use of any apothecary they like best, which I think is but doing justice to the gentlemen of that profession."

Whether this was a really honest repentance, or whether the one particular apothecary had offended Master Dover, did not appear.—*N. Y. Times*.

THE EARLY "PENNY IN THE SLOT."—Barely fifteen years can have elapsed since the automatic coin-in-the-slot machine first appeared in public places to supply customers with cigarettes, matches, chocolates, sweetmeats, stationery, etc.; while in its latest phase this contrivance—in conjunction with a lighted street lamp—has been made available for the automatic purveyance of hot water and hot drinks. Surely, it may be thought, this extremely utilitarian invention can only have been due to the ingenuity of the present generation; and it is, therefore, startling to learn that the automatic machine is one of the oldest projects in everyday use, since it was known a century before Christ, being the invention of that

great mathematician, Hero of Alexandria, who flourished B.C. 117-81.

Hero invented what he termed a "sacrificial vessel which flows only when money is introduced," and a full description of this apparatus is contained in his famous treatise on pneumatics, reissued by Thevenot, royal librarian to Louis XIV. of France, in the year 1692. "If into certain sacrificial vessels a coin of five drachms be thrown, water or wine shall flow out and surround them," so runs the postulate.

The explanation of the mechanism inside the vase was very simple; the vessel contains another holding the wine, and near to the latter is placed a vertical rod about which turns a well-balanced beam. When the coin is dropped through the slot it falls on one end of this horizontal beam, which being depressed, opens a valve suspended from a chain at the other end, and the wine commences to flow out through a pipe.—*Good Words*.

THE following notice, says *Success*, was issued by a New Jersey board of health:

"All persons who have dogs or cats running at large are hereby notified that they will be killed within twenty-four hours after the date of this notice."

This blunder was made by supposedly well-educated men, as were also those given below, selected from a popular work on "Essentials of English." Observe that their authors are not boys and girls, but a physician's wife, an alienist, a teacher, a clergyman, an editor, and some reporters:

"I know he will die because my husband is his physician."

"It was plain that the man was demented, as he would not eat himself or allow anyone else to."

"Students will not be allowed to throw stones at cows or other animals on their way to school."

"I protest against this quarrel in the interests of peace."

"My brethren, we will sing songs of joy ourselves this morning, because the choir is absent."

"The captain was dancing with a handsome lady in full uniform."

"He looked at the laborer as he shoveled the sand with a compassionate expression."

"On last Wednesday evening, as Stephen Jones was driving a young mule accompanied by his father-in-law, he suddenly commenced kicking, and, the buggy being soon overturned, both were thrown heavily to the ground. He then endeavored to subdue the vicious brute, and he kicked him so severely that he was injured internally. He was at once driven home, and everything possible was done to save his life, but all in vain, and he died about an hour after the accident. His loss is regretted by all. His father-in-law was not seriously hurt."

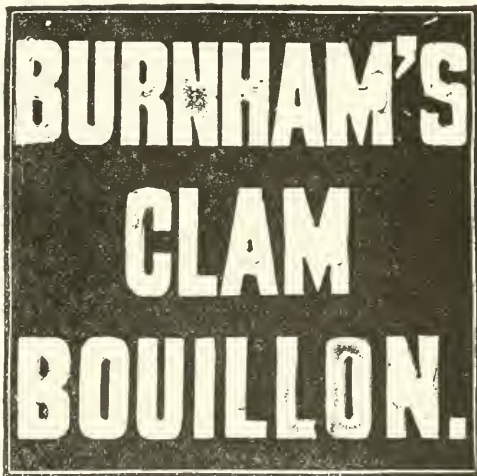
"Mr. Jones grabbed his typewriter and rushed for the street almost as soon as the fire-bell began to ring.—*Maryland Med. Jour.*

A LESSON IN HUMILITY.—The terrible events which have taken place during the past fortnight in the West Indies have served to remind us of the ceaseless and unrelenting operation of cosmic laws and of the littleness of man, and as members of a profession largely engaged in a struggle against these laws and in attempts to save individuals from penalties imposed upon them by a more or less outraged Nature, we may well learn a lesson in humility. How futile all our efforts seem! We pride ourselves on the lives we save

(Continued on p. xvi)

WOMEN IN PREGNANCY

For nausea in pregnancy, for convalescents, and for patients suffering from general gastric disturbances, Physicians will find an Exceptional Food in **BURNHAM'S CLAM BOUILLON**. The list of liquid foods that can be used in such cases is exceedingly limited and the Physician is often harassed to find a food that will be acceptable and appeal to the patient's appetite. In such emergencies **BURNHAM'S CLAM BOUILLON** has been known and has been prescribed for years by some of the Leading Physicians. It is unlike any other liquid food, in that when



prepared it presents an appetizing appearance and a tempting odor. It is a decided change from the ordinary delicacies for the sick room. It is enthusiastically welcomed, as the average layman knows the value of the juice of the clam as a beverage, as strengthening and tonic in its effect, both to the stomach and the nervous system. An especially attractive feature about **BURNHAM'S CLAM BOUILLON** consists in the fact that it is bottled in glass, being sold in pints and half-pints. This assures not only cleanliness and convenience in the serving, but perfect purity and freshness while using in the sick room. All the leading apothecaries and grocers sell it.

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(Continued from p. xv)

by removing tumors and deformities. Yet if we are to accept the general principles of evolution we are but propping up those who ought to die, and encouraging the upspringing of other generations which at the cost of still more suffering will have to be eliminated. With infinite pains and no small self-congratulation we track out the origin of enteric fever, and to a large extent protect our population from its ravages, and then to our sorrow we discover that the carefully protected people of the present generation are more susceptible than ever to the infection. We introduce western forms of civilization into India, we abolish suttee, give peace, put an end to infanticide, and feel that we have done great things, only to find that population has increased, that overcrowding and close living have brought their own dangers, and that people so bred and so housed are ravaged by plague—a penalty we had forgotten all about—and that in the presence of this calamity we have to stand helpless. By aid of many hospitals and a widespread sanitary organization we lower by a small percentage the death rate in this country, and we speak as if each scrofulous infant saved from an early grave, and each feeble old man enabled to live a few more weary years upon the charity of his fellows were an addition to England's potential greatness. Meanwhile, Nature steps in and quietly undoes all our handiwork by lowering the birth rate. A nation is great, not by the number of its population, but by its fertility, its power of filling up vacancies, and making good its losses whenever they occur, and herein has always been England's greatness. Yet that is where we now are failing. We, the doctors, are elated because here and there we save a life. But of what good if lives cease to be produced? What some call Nature, what others speak of as cosmic law is relentless and omnipotent; we are but flies upon the wheel.—*The Hospital*.

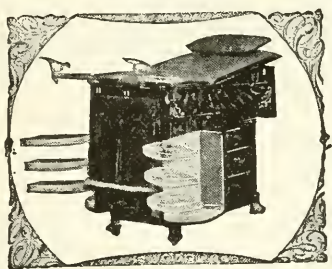
THE HOLIDAYS.—A piously-minded old lady who lived in the early part of the last century was accustomed to say that she always thanked God for a wet Sunday, "because it prevented such a deal of wickedness." She was probably by no means an exaggerated representative of the average nonconformist conscience of her generation, and it is a little curious to reflect upon the feelings which would have been excited in her ordinarily tranquil bosom if she had lived to see the preparations for holiday making which are now associated with the recurrence of particular seasons which, though originally set apart for the commemoration of the great events associated with the foundation of Christendom, have of late been more and more devoted to mere "pleasuring." With the great majority of those who are engaged in what they would describe, under the general term of "business," the religious aspect of Eastertide and Whitsuntide is almost lost sight of in the expectation of an "outing," and thousands rush on such occasions towards all available means of locomotion, from the Flying Dutchman or the Continental or Scotch Express to the humble excursion train or the County Council tramway. It is sometimes desirable to take stock of the affairs of a nation, as well as of those of a commercial concern; and the question whether all this holiday making is really for the good of the people who take part in it, is one which should certainly be asked. We will not follow our friend the old lady in even suggesting that "holiday making" is only another way of spelling "wickedness," but we are very far from being convinced

that what we can only describe as the general system of increased play and diminished work has not been greatly overdone, and overdone with consequences which are by no means difficult of discovery to any observers who will take the trouble to look for them.

We are constantly told, of course, that what it is customary to call the "strain" of life has been enormously increased since the days of our grandfathers; that the mental activity of to-day is more stringent in its requirements, the emotional life more exacting, than it has been at any former period of history; and hence that the "nervous system," about which people talk so glibly, is in need of frequent "recuperation" by means of rest from its exhausting labors. Well, as Faraday used to say, "it may be so;" but we have never yet been brought into touch with any convincing evidence as to the facts, nor are we quite certain that the ordinary course of holiday making is of a recuperative tendency. There were strong men before Agamemnon, and severe mental labor was not unknown to our ancestors, to the men who were concerned in the making of England, and in the establishment of her liberties. The Peninsular War covered nine of the early years of the last century, and was attended by anxieties not only far greater than any which the present generation has experienced, but also far more prolonged, as a necessary consequence of the comparative slowness with which intelligence was transmitted. The necessities of life were so much higher in price than now, both absolutely and relatively to the earnings of the masses of the people, that the bulk of the population were what would now be considered underfed, and had not learnt to crave for the daily or almost hourly stimulus of tobacco. Speaking generally, they lived harder, worked longer hours, and had fewer indulgences; but they produced the men who won Trafalgar and Waterloo, and who, as soon as peace was restored, at once placed their country at the very summit of the industrial and manufacturing enterprise of the world; a summit from which the holiday makers of this generation have as unquestionably suffered her to decline. We are very far from being pessimistic, but there is certainly much to be said in favor of that "waking up" which the Prince of Wales some time ago urged upon his future subjects, and towards which at least one step will have been made when the public have come to regard holidays and holiday making as pleasant indulgences, good to be had when they can be afforded, but by no means as matters of necessity even to the really industrious, and wholly superfluous to the lazy.

We believe that the medical profession is by no means free from the responsibility for the prevailing view which we hold to be erroneous; and that the easy prescription to "go away for a time" has been extended to a much larger number of cases than would have received it under a more careful diagnosis. A competent witness lately told the Lord's Committee that a workman who betted on races was never a good workman because his attention was distracted from his duties by hopes and fears about the coming "winners." The principle is of universal application, and schemes about coming holidays would probably exert a similar influence. In many cases holidays are distinctly hurtful. They often mean over-fatigue, an endeavor to accomplish too much within a limited time, irregular feeding, and over-indulgence in both alcohol and tobacco. Men go away professedly to recuperate, and they come back stale.—*The Hospital*.

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ABBOTT'S SALINE LAXATIVE

The Abbott Alkaloidal Co., of Ravenswood Station, Chicago, Ill., asks that the following statements by gratified practitioners be published: "I am much pleased with the action of Abbott's Saline Laxative. I use it freely. It certainly fills a long-felt want."—C. J. POLLARD, M.D., Princeton, Ky.

"I am well pleased with the action of Abbott's Saline Laxative. I consider it indispensable in the practice of medicine. Have used it for six years."—W. E. BAKER, M.D., Crane, Mo.

"As a laxative and cleansing agent for the intestinal tract, I consider Abbott's Saline Laxative superior to anything I have ever used."—JOHN W. TURNER, M.D., Homer, Ill.

It is stated that better results can be obtained when this laxative is administered on an empty stomach, preferably early in the morning, and it is also claimed that it never gripes.

FREE FOOD FOR THE BABIES

"So much illness has been caused in children who are taken to Coney Island (N. Y.) during the summer, for the benefit of the sea air, etc.—because they are so often fed milk which has turned sour, as the result of carrying a bottle around in the sun all day—that the necessity for providing some means whereby they may be fed a perfectly fresh milk while there, has been felt by the medical profession," state the manufacturers of the Food mentioned below. "The attention of doctors is called to the fact that during August and September, modified cow's milk will be served, free of charge, at Chamber's drug store, Surf avenue, under the direction of a

competent woman, who will be qualified to fill physicians' prescriptions for modified cow's milk and give babies other needed attention.

"Prescription blanks for this purpose have already been sent physicians in Brooklyn and New York, and duplicates will be sent any doctor upon request, by Smith, Kline & French Co., Philadelphia. This will give physicians an opportunity of testing Eskay's Albumenized Food as a milk modifier.

"Physicians are invited to send their little patients to Coney Island that they may secure the advantage, not only of the sea air, but the good results following the use of a pure, sterile, and nourishing food, served free by a thoroughly competent nurse."

BOVININE A FOOD AND A DRESSING

Messrs. Bovinine Co.—Dear Sirs: I desire to send you this unsolicited testimonial. I regard Bovinine as one of the most valuable foods I have ever used in my practice, covering over thirty years. I have had most wonderful results in saving starving, bottle-fed babies. As a dressing in old chronic leg ulcers, it has no peer. I have healed some very large, deep tubercular ulcers this past winter, which would yield to no other treatment. In deep seated abscesses and in traumatic lacerations, carbuncles, etc., my chief dependence is Bovinine.

I wish, as a boon to humanity, that every physician in America would use it in these troublesome cases.—Very truly yours, C. W. PRICE, M.D., President U. S. Board Pension Examiners, Bath, Me.

THE PHYSICIAN'S INFLUENCE IN ALL AGES

In the long-forgotten ages, while men yet lived in caves, the figure that stood out in boldest relief was the medicine man. When society began slowly and timidly to organize itself into a body politic, the chipped flint doing duty as both tool and weapon, the grain about which it crystallized was the ever present medicine-man-priest. To him came his tribe, singly and collectively, asking enlightenment and guidance. His war chief, however brave, however fierce, was only tribal warrior leader, he himself being the real ruler, holding the scepter of life and death over his people. His remedies were few and therapeutically worthless, but his dogmas were all-powerful. This picture is faithfully reflected among all primitive peoples even unto this day.

As culture made progress slowly, very slowly at first, but gaining rapidly with the passing of the centuries, the priest-physician was found ever in the forefront, grasping every idea and using each thought put forth by members of any other calling. The lowliest peasant and the veriest tyrant sought the opinions and advice of the astute jugglers in human frailties.

What was true as to influence wielded by the medicine man of the ages past ought to be and will be many times manifold for the enlightened medical man of to-day. Surely if any profession has the right to be proud of its achievements the great family of physicians stand possessed of that honor. See what has been done in lengthening life: From 1890 to 1900 four years have been added to the average longevity of those within the statistical area. It is our first and very pleasant duty to lengthen life, and who can gainsay our success? Is it fair to other professions that we be compared to them? If so, have the lawyers decreased crime or the preachers lessened infidelity? Only in the fields of applied science and the mechanical arts do we find any approach to the record made in medicine.—*Jour. A.M.A.*

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LITERATURE OF VALUE UPON APPLICATION.

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Vol. IV

SEPTEMBER, 1902

No. 9

The Sincerity and Intelligence of Followers of Christian Science and Other Crazes

THE editorial in the March issue of the ARCHIVES, entitled "Tolerance Toward Christian Science, Absent Treatment, and Other Crazes," called forth a good deal of comment, which may conveniently be classified into three divisions, as follows:

I. This comment was fully commendatory. The people expressed their entire agreement with everything we had said and thanked us for the unequivocal stand we had taken.

II. The criticism in this division is severely and harshly condemnatory, coming as it does from professed Christian Scientists and other faddists. To this class of people we have nothing to reply, because to discuss Christian Science with a confirmed believer in it is an utter waste of time and energy, leading only to useless irritation on both sides. You can discuss matters with an opponent who is willing to listen to reason and to follow in the path of logic, and who will frankly acknowledge that he is beaten when a whole series of unanswerable arguments has been presented to him. Not so with the Christian Scientists. They distinctly proclaim the fallacy of logic and reason; they say that true faith consists in believing in things which are contrary to reason and which are to all appearances untrue; they declare that the experience of mankind for these countless ages is misleading, worthless, and counts for naught against the dicta of Mrs. Eddy. When an

argument is presented to them which every rational being and which they themselves acknowledge to be unanswerable, they are not a bit abashed, but endeavor to blind you with a lot of drivel unintelligible to themselves and to everybody else. Of what use, then, to argue with such people? And what we have just said about the followers of Mrs. Eddy is equally applicable to the adherents of Dowie, Weltmer, Willmans, Truth, and all the other humbugs infesting our country.

III. But there is a class of people with whom it pays to argue, and whose criticisms of our editorial may all be put in category three. These are people who may be said to be on the borderland. They have not yet lost the desire to reason, or the capability therefor. They are searchers after truth, but, having rather weak reasoning powers, they swim with the tide and sway with the wind. While not professed followers of any cult, they look with benevolence on all of them, claiming that one must be tolerant towards *all* ideas and movements. Of the tolerance plea we disposed—and we think, effectually—in the above-mentioned editorial. But there is another argument presented, and which its users think is unanswerable.

They ask: Are not the Christian Scientists and the other cult followers, whom you hammer so hard, sincere? And is not every sincere opinion entitled to respect? And

again, if their ideas are so imbecile, so crazy, why are there so many intelligent followers of those cults? You know well, they tell us, that among the Eddyists, Weltmerists, Willmansists, etc., there are many artists, actors, lawyers, judges, merchants, etc. How do you explain this phenomenon? This is just what we shall endeavor to do in this editorial.

First, as to the sincerity plea. We do not doubt that most of the disciples, the people who foot all the bills, are sincere, but we doubt very much if the same can be said of the leaders. Somehow or other, an inordinate desire for cash—and this is the *sine qua non* characteristic of all the founders of the latter-day "religions"—cannot be well reconciled with an unselfish yearning for proclaiming the truth. But, even assuming for argument's sake that they are sincere, what of it? Most fanatics are sincere: the witch-burners were sincere; so were the actors in the horrible tragedy of the night of St. Bartholomew. Even that unparalleled wretch, Torquemada, whom to call a beast in human form is an insult to all the beasts in creation, the monster who during his inquisitorship slowly tortured to death over 90,000 people, and who burned at the stake over 8,000, was also sincere! He was sincere in his insane belief that heretics should be tortured or burned. We thus see that the sincerity with which an opinion is held is not *per se* sufficient to entitle that opinion to respect. It is generally the silliest, the most bizarre and insane opinions that are held with the utmost sincerity and pertinacity. And when an opinion is of an anti-social character, when it is a menace to the minds, the health or the lives of the people, then we must combat it with all our power, irrespective of whether the holders of that opinion are sincere fanatics or designing frauds.

Now, as to the intelligence of some of the believers in Christian Science. There was a time when judges condemned poor women to be burned at the stake on the charge of witchcraft. Judges at that time the same as now were considered to be learned men, and to belong to the higher classes. But does this prove that witchcraft really did

exist? No, it shows that judges and lawyers are but common mortals, and on subjects outside of their immediate sphere may be as ignorant and as irrational as the lowest laborer. We know of prominent actors, some of them stars and managers, who firmly believe in the luck-bringing virtues of a horseshoe. David Belasco, Mrs. Leslie Carter's manager, is one of those believers. And what does this prove? Does it prove that there is such a thing as luck, and that a horseshoe is capable of bringing it to its owner? No, it proves that where the emotions are highly developed, the reasoning faculty—that stern judge who demands *proofs* and logical sequence—is often below par and that the greatest artists may be, and often are, the victims of the crassest superstition. A lawyer's or an artist's opinion is of no more value when relating to medicine, than when relating to astronomy or geology. We have met men and women possessed of all the graces and accomplishments, sweet to look upon and pleasant to talk to, well read in *belles-lettres*, and speaking two or three foreign languages, whose reasoning powers were exactly on a par with those of a child five years old. They were absolutely incapable of sustaining or even following a connected, logical argument for five minutes. Which merely goes to show that the faculty of logical reasoning is a thing distinct from the faculty of memorizing, from the faculty of piano-playing or reciting, or preaching, or even coupon-clipping. That faculty *must* be possessed by the true scientific investigator and thinker, and scientific investigators and thinkers are not found in the ranks of Christian Science, or of any of the other humbugs that have been mentioned.

There were those, too, who intimated that all the attacks on Christian Science, etc., were instigated by selfishness; by the fact that these sects affected the income of the medical profession. Those who know the self-sacrificing spirit of the medical profession as a whole—the only profession that is striving towards self-extinction, by teaching the people the laws of health and hygiene, and insisting upon sanitary measures—will know how to reply to that calumny.

[Written for MERCK'S ARCHIVES]

HYDRASTIS CANADENSIS AND ITS ALKALOIDS

By J. M. French, M.D., of Milford, Mass.

HYDRASTIS CANADENSIS (common names: golden seal, yellow puccoon) is an herb of the natural order *Ranunculacea*, growing in most parts of the United States, but especially abundant in the North and West. The medicinal portions are the rhizome and rootlets. The taste is bitter; the odor, sweetish; the color, bright yellow in the recent root, changing to a dark yellowish brown by age.

Golden seal has been used as a medicine for nearly a century by the Eclectics, to whom we are chiefly indebted both for its development as a drug and for our knowledge of its properties. Until within a comparatively recent period, but little attention was paid to it by the regular branch of the profession; and it is also noticeable that outside of the Eclectics, even up to the present time, with a few notable exceptions, it has been employed clinically, and especially studied physiologically, to a much greater extent abroad than in the country of its origin.

Its medicinal virtues are chiefly due to the alkaloids berberine and hydrastine. Two other alkaloids, to which the names canadine and xanthopuccine have been given, have been found in quantities so minute as to render them of little value, and hence their properties have been but slightly investigated. The other ingredients are resin, starch, sugar, woody fiber, etc. The virtues of the plant as a whole are represented by the fluid extract, and also by the concentration (or resinoid) known as hydrastin, which contains all the alkaloids in natural combination. A preparation is also manufactured, called fluid hydrastis, which is said to represent all the active medicinal constituents of the drug, freed from the associated resinous principles. It is non-alcoholic, and combines with alcohol, glycerin, wine, syrup or water, without precipitation.

Hydrastis is first of all a remedy for relaxed and diseased conditions of mucous membranes. Its action is that of a tonic, lessening over-secretion, correcting unhealthy discharges, and restoring normal tone and function. It may be used both internally and locally.

In leucorrhœa and gonorrhœa, the fluid preparations, in aqueous solution, 1 to 4 drams to the ounce, used as injections, are remedies of great value. In nasal and bronchial catarrhs, a weak dilution forms

an admirable douche. In stomatitis and other forms of sore mouth, either a decoction of the bruised or powdered root, or a dilution of the fluid extract, may be used as a mouth-wash. In my own practice, I have found the hydrastis preparations, which were prescribed for their general tonic effect, to produce a favorable influence upon the catarrhal process, in patients who were suffering from chronic nasal catarrh. I am, therefore, prepared to advocate the internal use of hydrastis in these cases.

In cystitis, gastritis, and gastro-intestinal catarrh, particularly in the more chronic forms, hydrastis is especially indicated.

In dyspepsia, particularly those forms characterized by relaxation, over-secretion, and deficient absorption, showing a tongue heavily coated at the base, with morning aches, nausea, and occasional vomiting, it is of great value.

As a general tonic, in loss of appetite and general debility, it approaches *nux vomica* in value and general applicability, while excelling it in special cases.

It has been used to some extent in the treatment of intermittents, but for this purpose the alkaloids, either singly or combined, are preferable.

Berberine, the yellow alkaloid of golden seal, is the most abundant, and was the first to be isolated and studied physiologically. It exists in the root in proportions varying from 1 to 3 per cent. (Merrell), according to the conditions under which the herb is grown and the season in which it is gathered. It is also found in many other plants, as *columba*, *fraxinus*, *xanthoxylum*, *berberis aquifolium* (from which it takes its name), and many others. It is said to be the most generally distributed of any alkaloid in the plant world. It is known to the Eclectics as hydrastine (yellow alkaloid), hydrastia, and sometimes as berberine. It is considered by them as the most important principle of the plant, and as best representing the entire drug. As the alkaloid itself is but sparingly soluble in water, its salts are generally used in medicine, and of these the sulphate is generally preferred on account of its purity and greater solubility. This salt has an extremely bitter taste, is of a bright yellow color, and exists in the form of flaky crystals. It is soluble in cold water, approximately to the amount of $\frac{1}{2}$ grn. to the ounce; in hot water, 12 grn. to the ounce; and in alcohol, $\frac{3}{4}$ grn. to the ounce. It has been studied by Falck, Feller, Marfori, Cushny, Berg, Brunton, Lascarat, and others.

Its chief action is upon the central nervous system. In large doses, it paralyzes

first the automatic centers, and later the spinal cord. In rabbits, $1\frac{1}{2}$ grn. hypodermatically causes death with paralysis of the hind legs, convulsions, diarrhea, a falling temperature, and a weakening heart and respiration. Death apparently occurs by asphyxia, from paralysis of the respiratory center. In these actions it is analogous to strychnine. In smaller doses, it causes albuminuria, with swollen and turgid renal epithelium. A dose eight times as great, given by the stomach, is not fatal, but produces diarrhea, vomiting, tremor, rapid pulse and respiration, with extreme weakness. Given continuously, in large doses, it causes loss of appetite and body-weight. Intestinal peristalsis is one of the principal symptoms produced, whether the drug is given hypodermatically or by the mouth or rectum. Both the spleen and the uterus are strongly contracted by its use. It checks the movements of the leucocytes, and causes the red corpuscles to become granulated and shrunken, owing to the closer union of the oxygen with the hemoglobin. Its effects upon leucocytes and upon bacteria are analogous to those of quinine. It is in part excreted unchanged by the kidneys, and in part broken up and destroyed in the system.

As a simple bitter tonic, in indigestion and loss of appetite, berberine acts similarly to hydrastis, the crude drug, or hydrastin, the concentration; being in fact, the bitter principle of the drug, upon which these actions probably depend. The same is probably true with regard to its action in the various catarrhal conditions of mucous membranes—though as this is denied by some, it must be considered as still *sub judice*.

It is indicated in intestinal diseases in which there is a lack of tonicity, with either constipation or diarrhea.

Berberine exercises a direct influence over the hepatic cells, and hence is of special value in chronic derangement of the liver.

In gonorrhea, after the acute stage has passed, and especially in gleet, it is of great value. The following formula is recommended by Prof. Bartholow:

| | |
|----------------------|------------|
| Berberine Sulph..... | grn. x |
| Mucilage Acacia..... | fl. oz. ii |
| Rose Water..... | fl. oz. iv |

Mix, and use $\frac{1}{2}$ oz. as an injection.

In menorrhagia and other forms of uterine hemorrhage, it is of some value, but as it acts wholly or mainly by contracting the uterine tissue, and not upon the arterioles directly, it is of less value than hydrastine, which acts upon the vascular system rather than upon connective tissue. In

subinvolution and fibroid tumors of the uterus these properties render it of especial value, and careful observers have found its use to be followed by restoration of the uterus to its normal condition in the one case, and a decided lessening in size of the tumor in the other. To produce the best results in these cases, it should be injected in the vicinity of the diseased tissue.

In malaria, especially in those chronic forms which are attended with enlargement of the spleen, berberine is of especial and unique value, since it has, according to Typaldo Lascarato, the remarkable action of contracting the splenic pulp. In this way the parenchyma of this organ is rapidly reduced, and the malarial organisms are forced into the general circulation, where they are readily killed. He employs it in doses of from $\frac{1}{2}$ to 5 grn. three times daily, according to the age of the patient. In Greece and Italy it is said to be extensively employed combined with quinine, according to the following formula:

| | |
|------------------------------|----------|
| Berberine Hydrochlorate..... | grn. xv |
| Quinine Bisulphate..... | grn. vii |

Put in four capsules, one to be taken every hour or half-hour for an adult.

This combination is of the greatest value in malaria with enlarged spleen.

The dose of berberine varies according to the purpose for which it is given, the frequency of its repetition, the mode of administration, and the age of the patient. The dosimetric physicians administer it for its tonic and anticatarrhal properties, in doses varying from $\frac{1}{67}$ to $\frac{1}{6}$ grn. every waking hour. Given in this way for a considerable period of time it is very effective. The dose usually recommended is from $\frac{1}{2}$ to 2 or 3 grn. three times a day. In malaria, as has been stated, it is given to the extent of 15 or 20 grn. in twenty-four hours.

Hydrastine, the white alkaloid of golden seal, the colorless hydrastis or "white alkaloid hydrastia" of the Eclectics, exists in the root in the proportion of $\frac{1}{4}$ to $1\frac{1}{2}$ per cent., according to the quality of the plant, etc. It is of a white color, faintly tinged with yellow, crystalline, not bitter, but leaving an acrid sensation in the mouth and throat. It is soluble in 120 parts of alcohol, 85 parts of ether, and two of chloroform, but very slightly in water; its salts, however, are freely soluble.

Bartholow believes that the characteristic virtues of the drug hydrastis are vested in the alkaloid hydrastine. In his experiments, he found the fluid extract and the white alkaloid to act very much alike. He says: "As the actions of hydrastis consist of the effects of its active constituents, it

is necessary to know how far each contributes to the result. It was soon ascertained that the alkaloid hydrastine is the true active principle, for the very characteristics of this were simply repeated by sufficient doses of the fluid extract. The latter is, as might be expected, slower in action, but in respect to the manner of action there was between them no appreciable difference. Three grains of the hydrochlorate (of hydrastine) caused the death of a frog in four minutes, while 40 minims of the fluid extract proved fatal in ten minutes; the mode and character of the action being the same. The results in rabbits were corresponding. In general terms the effects of hydrastis are those of hydrastine in both classes of animals; but minute differences may hereafter be detected on closer examination."

On the other hand, Merrell points out that the quantity of the white alkaloid used in the experiment referred to was much larger than could be produced from 40 minims or grains of the fluid extract, and claims that the assumption that the white alkaloid which exists in the drug in minute proportion as compared with the yellow alkaloid, is the true active principle, because in large doses it produces effects analogous to the fluid extract, is not well taken. He believes that a solution of the alkaloids other than berberine will fail to meet expectations. So far as shown in his report, the experiments of Prof. Bartholow were confined to the white alkaloid. It would seem that a set of comparative experiments might be instituted which would settle the question of the relative importance of the two alkaloids. Until such experiments have been performed it seems the part of common sense to believe that neither one alone, but both together, are required to produce the sum total of the effects of the crude drug; and that their comparative importance is proportionate to the percentage of each existing in the root, and the relative strength—and especially the relative toxicity—of each. Hence the importance of a careful study of each alkaloid.

Hydrastine stimulates the medullary centers, slows the pulse, raises arterial pressure, increases the rate of respiration. Large doses paralyze both the medulla and the cord, and even the heart muscle. Thus it will be seen that its action is first tonic, then tetanizing, and finally paralyzing. When the dose is very large, the tonic stage may not develop, paralysis coming on at once, as is the case with strychnine when given in massive doses. When given in smaller doses, the stage of tonic spasm is succeeded

by one of paralysis, in which all the voluntary and cardiac muscles participate. The heart is arrested in diastole, and its cavities are filled with blood.

Serdtschiff states that hydrastine increases and strengthens uterine action by an influence derived from the central nervous system, probably by way of the vaso-motor nerves.

Cerna has determined that hydrastine destroys the excitability of the muscular tissue and the motor nerves. Very large amounts produce a loss of functional activity of the sensory nerve-fibers, and also cause anesthesia when applied locally. Small quantities increase reflex activity by stimulating the spinal cord.

Bardet asserts that hydrastine has no influence in arresting uterine hemorrhage during labor or the puerperal period. Nor does it have any effect upon the process of involution.

When given by the mouth hydrastine is slowly absorbed, and has a tendency to accumulate in the system. It has been found in both the feces and the urine.

Comparing the effects of hydrastine with those of berberine, we find that the toxic action of the former is much the greater. Indeed, no toxic dose of berberine in man, when taken by the stomach, has been discovered. Berberine in moderately large doses paralyzes the inhibitory nerves, quickens the heart-beat and the pulse-rate, and lessens the blood-pressure. Hydrastine stimulates the inhibitory nerves, slows the pulse, and raises the arterial pressure. From a therapeutic point of view, the distinctive action of berberine is upon the muscular and connective tissue, while that of hydrastine is upon the heart and the vaso-motor nerves.

From the physiological actions as above deduced, it is evident that hydrastine is a remedy of special value in capillary hemorrhages of all kinds. It is used with success in epistaxis, hemoptysis, tubercular hemorrhages, in aneurism, and in uterine hemorrhages. In this particular field, however, its properties are excelled by the much more powerful and unique actions of its derivative.

Hydrastinine.—This is an oxidation product of hydrastine, and is employed mainly in the form of the hydrochlorate of hydrastinine. This is a yellow, hygroscopic, bitter powder, soluble in 1 part of water and in 3 of alcohol, but almost insoluble in ether and chloroform. Its action on the medulla is similar to that of hydrastine, but it has much less effect on the motor and sensory centers. In two respects its action,

while similar to, yet exceeds that of hydrastine. It raises the arterial pressure to a much higher point than does hydrastine, and it has a more marked tendency to act upon the uterine organs, causing contraction of the vessels of the pregnant uterus sufficient in some cases to cause death of the fetus and produce abortion—yet without affecting the uterine muscle.

It is evident that hydrastinine excels all other alkaloids of hydrastis in two directions, viz., as a *vaso-constrictor*, and as a *uterine hemostatic*. Its specific use, therefore, is in restraining uterine hemorrhage. Its effects are more pronounced when the walls of the vessels are sound, less so when they are diseased. It is indicated in menorrhagia, metrorrhagia, hemorrhages at the menopause, those due to fibroid uterine tumors, etc. It differs from ergot, which sometimes causes only painful contractions, while hydrastinine does not, as it acts only on the vessels, not on the muscle fibers. Schatz declares that hydrastinine should always be used in functional troubles of the uterus and ovaries, and one should never have recourse to the bistoury before essaying the efficacy of this drug.

The maximum dose is 1 grn. hypodermatically or by the mouth. The more common method consists in giving $\frac{1}{4}$ to $\frac{1}{2}$ grn. four or five times daily. According to the method of the dosimetrists, it is given in doses of $\frac{1}{67}$ to $\frac{1}{22}$ grn. every ten to thirty minutes, until the hemorrhage is under control.

[*Cotarnine hydrochlorate*, or stypticin, chemically very closely allied to hydrastinine, is considered superior to the latter as a uterine hemostatic. The dose of the former is from $\frac{3}{4}$ to 2 grn.—ED.]

To sum up: The indications for hydrastis and its alkaloids are as follows:

Hydrastis (the crude drug).—Indicated in all chronic catarrhal conditions of the mucous membranes, with relaxation of tissues and profuse secretion. Also as a local application, tonic, astringent, and antiseptic, in all the above conditions where it can be applied directly. Also as a simple bitter to improve the appetite and digestion, and tone up the general system. Contra-indicated in all acute inflammations, with arrest of secretions.

Hydrastin (the concentration) has substantially the same indications.

Berberine (the yellow alkaloid).—Special actions, to produce contraction of muscular and connective tissue. Special uses, in enlargement of the spleen, where its most brilliant results have been produced; in subinvolution of the uterus, uterine fibroids,

dilatation of the stomach, and wherever it is necessary to combat relaxation, atony, or defective contractility of tissue. Theoretically, it should prove of value in dilatation of the heart and enlargement of the liver.

Hydrastine (the white alkaloid).—Special action, to produce contraction of the arterioles. Special uses, in capillary hemorrhages of all kinds, particularly genito-urinary hemorrhages.

Hydrastinine (the derived alkaloid).—General actions and uses, similar to those of hydrastine, but contracting the capillaries more strongly, and having a greater tendency to act upon the uterine vessels. Hence its specific use as a uterine hemostatic.

[Translated for and contributed to MERCK'S ARCHIVES]

THE DIURETIC ACTION OF THEOBROMINE DERIVATIVES

By D. DeBuck, M.D., of Ghent, Belgium

A UNIFORM composition of the bodily fluids, the blood and the lymph, is a condition essential to health. For this reason nature has provided the animal organism with a number of regulating mechanisms which I designate as the chemical state of the body, in contradistinction to the physical and mechanical state, and which in its turn is subject to a constant regulation (caloric, static, and dynamic equilibrium).

The regulation of this chemical state is effected, in the first place, by the circulatory apparatus and the cardiac and vasomotor nerve centers by which it is governed, and furthermore, by a series of organs of internal and external secretion, whose physiological action is as yet imperfectly understood. These multiple organs of secretion are controlled in turn by the influence of the nervous system. There is a tendency at the present day to admit the existence in the central nervous system, besides the diverse centers governing various vital phenomena, of a series of sympathetic centers devoted to the regulation of the equilibrium of the various vegetative functions.

Nutrition, circulation, and secretion represent three organic functions dependent upon each other. The equilibrium of fluids, which is of great physiological importance and intimately connected with all the other equilibriums of chemical character and with the nutrition of the tissues, depends chiefly upon the blood pressure and the renal secretion, and also to some extent upon the intestinal secretion, the perspiration, and the pulmonary transpiration.

We can thus easily comprehend that the two chief etiological factors of anasarca and dropsy are to be sought in disturbances of

the pressure of the blood and of the renal secretion, and this being so, we can clearly see the path which we should follow in the therapeutics of dropsy. We should regulate the vascular tension or we should act upon the kidneys by increasing their secretion. Aside from this, recourse may be had to purgation or sweating. If the parenchyma of the kidney itself is profoundly affected it is evident that the class of medicaments exerting their action by stimulating the secretion of the latter cannot exercise a beneficial effect.

Among the diuretics which act directly upon the kidney the group of xanthines or purines (Fischer), which in their chemical composition approximate to uric acid, and their salts, are of great importance. Theobromine is more purely a renal diuretic than caffeine, for the reason that its elective action upon the renal epithelium is not counteracted, as is the case with caffeine, by a vaso-constrictor action exerted upon the renal vessels. Moreover, theobromine has for some time gained a high reputation as a diuretic. Unfortunately, however, owing to its insolubility in water, its action is uncertain and inconstant. The theobromine-sodium (solution of the base in sodium hydrate) is somewhat caustic. As regards the value of theobromine-sodium and sodium salicylate introduced into therapeutics by Gram, of Copenhagen, it does not seem to be free from certain drawbacks inherent in all other compounds which contain salicylic acid.

This led Dr. Impens to replace the salicylate of sodium by a salt free from these inconveniences and also possessed of diuretic properties, namely, the acetate of sodium. The acetate of sodium and theobromine is known to-day under the name of *agurin*. It is a white powder, easily soluble in water, having a saline, bitter taste and feeble alkaline reaction. It contains 60 per cent. of theobromine, which is more than the other combinations of this base. *Agurin* is very hygroscopic and is decomposed by the carbonic acid of the air, and it should therefore be kept in well-closed bottles.

This drug was first tested as to its diuretic action in rabbits by Impens in comparison with the salicylate and the nitrate of sodium-theobromine. As the result of a number of comparative experiments it was found that nitrate and acetate of theobromine-sodium are more powerful diuretics than the salicylate, and that these double salts have the great advantage of not acting upon the circulation, gastro-intestinal mucous membrane, or the kidneys.

Impens also made some tests with *agurin*

upon his own person and observed a relative diuresis. This fact shows that the physiological organism, when the equilibrium of fluids is normal, does not part with the mobile portion of its liquid element. Whether the reserve of fluids of the organism is scanty or not the diuretic effect is equally nil.

Unlike the other preparations of theobromine, *agurin* not only promotes the secretion of fluids by the kidneys but it equally favors the elimination of solids (urea, phosphates, and chlorides), besides its acetyl radical is oxidized by the organism and renders the organic exchanges more active. After having established that *agurin* is from every point of view superior to diuretin, Impens reaches the following conclusion: "Hence I regard *agurin* as being the most innocuous, the most advantageous, and the most rational preparation of theobromine."

Destree was the first to make a clinical study of *agurin*. He administered it in doses varying from 0.25 to 2 Gm. (4 to 32 grn.) daily in eight cases—those without circulatory or renal troubles, those with circulatory troubles, and those with both circulatory and renal troubles. The following are his conclusions:

1. The double salt of theobromine-sodium and acetate of sodium is a good diuretic.
2. It is well tolerated on account of its feeble causticity.
3. It acts in comparatively small doses, so that its effects may be manifested from doses of 0.25 to 0.5 Gm. (4 to 8 grn.) daily.
4. It acts not only upon the quantity of water eliminated but upon the solid elements of the urine.
5. The effect persists several days, and often one week after the cessation of its administration.
6. The elimination of phosphates in the urine is especially increased.
7. Its action is not constant in renal affections.

Litten reached similar conclusions. He states that *agurin* does not have the disadvantages of theobromine-sodium salicylate (disturbances of the stomach and heart). It is well supported and constitutes a true renal diuretic, and is indicated in all dropsies in which the renal epithelium is intact or sufficiently preserved to react under the influence of the medicament. The customary dose is three powders of 1 Gm. each daily. The diuretic action showed itself at the end of two or three days, and ceased within forty-eight hours after the administration of the last dose.

Michaelis rejects the diuretic effect ob-

served by Destree in normal persons, but confirms the clinical observations that agurin is very serviceable as a renal diuretic. According to him it is indicated above all in cardiac disorders. The presence of a slight interstitial nephritis does not, however, prevent the occurrence of diuresis. The effect of the drug manifests itself rapidly, and ceases usually one day after discontinuing its administration.

We have, in our turn, made a study of the value of agurin as a diuretic, being guided by the clinical works cited above. It was first tried by us in those diseases in which there were no symptoms denoting disturbances of the fluid equilibrium; at least apparently so, but in which the regular secretion of urine and the organic exchanges were seriously affected by an inflammatory febrile process.

Case I.—A woman, 45 years old, suffering with acute articular rheumatism. The quantity of urine passed in twenty-four hours varied from 200 to 700 Cc. Agurin, 0.5 Gm., was administered four times daily. Results: The day before beginning its use, urine 620 Cc.; first day of its administration, 800 Cc.; second, 1040; third, 1500; fourth, 1420; fifth, 1240 Cc.

Case II.—Tuberculous infiltrations of the right lung. Caseous pneumonia. Evening temperature elevated. Average volume of urine, 1400 Cc. Agurin same doses as before. Result: On the day preceding its administration, urine 1608. First day of its employment 1900 Cc.; second, 2105; third, 1900; fourth, 1600; fifth, 1400 Cc.

It appears from these first two experiments that in pyrexial affections without any apparent disturbance of the circulation and kidneys, the diuretic effect of agurin manifests itself. It occurred after the first few doses. Its effect decreased on the fifth day, probably because the reserve mobile fluid of the organism had been reduced.

My experiments tend to confirm to a certain extent those of Destree and are contrary to the results obtained by Michaelis. On the other hand, we have not observed the persistence of the diuretic effect which was noticed by Destree.

We have also experimented with a case in which an articular rheumatism was accompanied by an acute endocarditis ingrafted upon pre-existing valvular troubles following previous attacks of rheumatic endocarditis.

Case III.—A woman, twenty-nine years old. Average quantity of urine, 1100 Cc. No edema. No albumin in the urine. Agurin, 2 Gm. daily for five days. Result: The day before administration, urine 1055 Cc.; first day of medication, 1200; second, 1560; third, 1710; fourth, 1480; fifth, 1330 Cc. The diuretic effect was more manifest here than in the first two cases. We attribute this fact to the circumstance that although there was no trace of edema, the circulatory disturbance produced by the cardiac trouble aug-

mented the reserve mobile fluid of the organism, rendering it difficult to maintain the fluid equilibrium. We notice here also how quickly this tends to become re-established, the diuretic effect diminishing distinctly on the fifth day after using the drug.

We shall now report a case of simple cardiac dropsy, in which we made several successful attempts to remove the edema:

Case IV.—A girl, fourteen years old, suffering with pronounced valvular lesions due to rheumatism, with commencing dilatation and asystole, attacks of angina pectoris, general dropsy. There was a well-marked ascites which had been removed by puncture sometime before. Average volume of urine, 500 to 600 Cc. Kidneys normal. Two experiments were made with agurin, each of five days' duration, the drug being given in four doses of 0.5 Gm. daily. Experiment No. 1. On the day preceding the use of the drug, urine 560 Cc. First day of administration, 1000; second, 1800; third, 3200; fourth, 3000; fifth, 1950 Cc. The quantity of urine remained during the following three days about 1500 Cc., and then fell to 950 Cc. An infusion of digitalis was then prescribed, which stimulated the cardiac muscles, and the diuresis again arose to 1600 Cc. Second experiment. Urine on the day before administration of agurin, 1510 Cc. First day of administration, 2000; second, 4500; third, 5200; fourth, 3100; fifth, 2425 Cc. During the following days the average urinary secretion remained at 1 ½ liter, the entire dropsical effusion being removed.

This double observation shows that agurin is capable of dehydrating an organism in which there is a disturbed equilibrium of fluids of circulatory origin, but in which the renal epithelium is still normal. If the cardiac muscle is in a pronounced hypotonic condition it is necessary to relieve the tension of the heart and vessels by digitalis or some other cardiac tonic. The effect of agurin is favorably modified by the re-establishment of the circulation.

Case V.—In this case there was a marked cardiac insufficiency accompanied by Bright's disease, partly of cardiac and also of alcoholic origin. The average volume of urine had fallen to 300 Cc. in the twenty-four hours. Agurin was prescribed in 0.5 Gm. doses, four times daily, with the following results: First day of medication, urine 460 Cc.; second, 900; third, 410; fourth, 515; fifth, 400 Cc.

This observation proves that agurin is of little value as a diuretic when the renal epithelium is in a stage of degeneration. This fact should be considered by those who are engaged in studying the properties of this new medicament, which represents the type of a renal diuretic.

Case VI.—This was a case of dropsy of cachectic origin, following a pulmonary tuberculosis. The daily volume of urine was approximately normal, and there was only a slight trace of albumin. Agurin was prescribed in doses of 0.5 Gm. daily, with the following results: The quantity of urine on the day before beginning its use was 1525 Cc.; first day of medication, 1672; second, 2910; third, 2530; fourth, 2120; fifth, 1985 Cc.

The diuresis here was very marked, and attributed largely to a dehydration of the organism. This form of cachectic dropsy has been much discussed without any consensus of opinion. While in general it has been attributed to a hydremia, others have attempted to show that the vascular endothelium is normal and that a hydremia does not exist. Its pathogenesis should, therefore, be sought in the alteration of the endothelium. This endothelium has a glandular secretory function and it is intended to maintain a constant equilibrium of fluid and osmosis of the blood. It can, therefore, be easily understood that if this secretory function be disturbed, hydremia and edema may develop. However this may be, in these cases of cachectic dropsy agurin is of value as an antihydrotic, provided that the renal epithelium is sufficiently preserved.

From all that has been said it followed that we possess in agurin a precious remedy for dehydrating the organism in all cases in which the kidney is not affected, or at least not profoundly altered. The daily dose of 2 Gm. is usually sufficient, but this may be exceeded, for the medicament is well tolerated and does not produce any secondary disturbances.

In view of the fact that agurin is very hygroscopic and decomposes in the presence of carbonic acid it is advisable to prescribe it in wax papers, or to prepare solutions with ordinary water or peppermint. It should not be given in mixtures with syrups or fruit juices. If it is desired to sweeten the solution it is preferable to use some artificial sweetening agent.

[Written for MERCK'S ARCHIVES]

AN INDEX OF DISEASES, ALPHABETICALLY ARRANGED, WITH THEIR MODERN TREATMENT

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(Continued from page 271, July issue)

CATARRHUS VESICÆ URINARIÆ (cystitis, inflammation of the bladder).—Cystitis is a bacterial infection of the bladder involving one or more of its four coats. The germs concerned in this process are in general the pyogenic species: bacillus coli communis; gonococcus, and bacillus tuberculosis. Less often the typhoid and diplo-bacillus join in with one or more of the types above mentioned. No other viscus in the system is anatomically so strongly fortified, physiologically so well defended as the bladder. Clinically we find its power of resistance against bacterial invasion and toxic influences so great that it requires severe attacks

before any lasting disturbance of its normal functions takes place. As predisposing conditions for infection may be mentioned: retention with overdistention, direct violent traumata and careless use of instruments, calculus, prostatic enlargements, pelvic and perirectal abscesses, semino-vesiculitis and deep urethral strictures.

Clinically, cystitis may be divided into an *acute*, *sub-acute*, and a *chronic* form according to intensity and duration.

The *acute* inflammation sets in suddenly, generally with severe pains in attempting to micturate, the desire to which is always greatly increased. A chill is often the first symptom, more or less high fever generally follows. Palpation over the suprapubic region is often insufferable. Retention of urine may be absolute or some few drops at a time may be passed, sometimes with admixture of blood, always with pronounced distress and tenesmus, which feeling may involve not only the rectal sphincters but in bad cases the whole pelvic territory as well. If the infection is of malignant type (streptococcus, ulcerative) the constitutional symptoms are very conspicuous: heart-palpitation with small and frequent pulse, thirst, headache and hiccough; sometimes nausea; extreme bodily exhaustion and mental restlessness and anxiety. In acute cases the urine becomes turbid after twenty to forty hours and after a few days contains considerable amounts of pus; ammoniacal decomposition quickly develops, and if not met in time the condition will often pass into the chronic type. Most common causes of acute form are unclean instruments; elimination through the kidneys of irritating drugs (cantharides, turpentine, etc.) or toxins during the course of acute febrile diseases. [Also a severe cold.]

The *chronic* form appears either with the acute symptoms, but considerably mitigated, or without any distress whatever. The symptoms are quite often masked in the beginning, gradually increasing in number and intensity. The color of the urine is usually lighter, from the beginning alkaline and of lower specific gravity than in acute cystitis. When allowed to settle, a more or less dense deposit of pus is formed at the bottom of the vessel. The alkalinity of the urine is apt to convert the formed pus into a ropy, glairy, mucus-like matter which greatly interferes with free micturition. It is well to remember that a chronic cystitis appearing without obstructive lesions is often of tubercular nature.

Common causes of chronic cystitis are neoplasms, gravel, and stones or other for-

eign bodies in the bladder; tuberculosis transmitted from the diseased kidneys or from other parts of the urogenital system [or repeated attacks of acute cystitis].

Treatment.—Prophylaxis is here of highest importance. The strictest surgical asepsis in explorative or therapeutic manipulations of the bladder should be observed. Predisposing factors—perivesical, pelvic, rectal, and renal diseases—should be radically dealt with from the beginning, and exposure to quick temperature changes, dampness, and wet feet should be prevented.

Acute and sub-acute cystitis demands absolute rest in bed. All active, local interference in the acute stage is contra-indicated. Our first care should be to relieve the distress and support the bladder in its attempts at free and complete evacuation. This is best done by opiates in the form of suppositories, and chloral and bromides *per os* (see below). The application of hot poultices, and sometimes an ice-bag, to the suprapubic region, or continual irrigation per rectum with ice-water in a double-current Kemp tube, gives quick and satisfactory results. Diet in the beginning should consist only of milk, milk-soups, or gruel. Free evacuation of the bowels should be produced by mild salines (Apenta, Rubinat, etc.) or by good doses of castor oil. If irritation of the neck of the bladder exists in spite of administered narcotics, speedy relief may be obtained by application of half a dozen leeches to the perineum[?].

The reaction of the urine should always be ascertained. If *too acid*, give Vichy water with the addition of goodly amounts of sodium bicarbonate, and let patient drink freely.

Potassium acetate, bicarbonate and citrate, of each 0.3 to 0.5 Gm. (5 to 8 grn.), together with pichi (see below) administered with generous quantities of water, will also serve the purpose. If urine is too alkaline, the best remedy is 0.3 Gm. (5 grn.) each of benzoic and boric acid, with liberal amount of water, every three hours. A combined neutralizing and antiseptic action is reached by administration of formin or urotropin (see below), an entirely harmless and non-irritating derivative of formic aldehyde. Salol has also been used with good results (0.3 to 0.5), but it doesn't possess as pronounced antiseptic properties as formin.

If symptoms should necessitate artificial emptying of the bladder, this must be done with the strictest aseptic precautions, and the greatest possible gentleness. After a thorough evacuation a few drops of a 2-per-cent. solution of silver nitrate may be in-

stilled between the sphincter every two or three days.

If this treatment, contrary to all expectation, should prove insufficient to alleviate the condition and a tendency to chronicity be obvious, a careful irrigation with 1 or 2 oz. of a mild but efficient antiseptic may be of benefit.

Here, as in case of catheterization, the strictest asepsis must be observed, not only in regard to instruments and receptacles, but before introduction the orifice of the urethra should be thoroughly cleansed and aseptized. The temperature of the irrigation fluid should be from 100° to 105° F., and only well sterilized, distilled water should be used. We positively warn against using too large quantities of liquid for irrigations; experience will show that smaller amounts, frequently applied, will be more efficacious and less irritating to the sensitive wall of the bladder.

(300) Extr. Opii.....0.06 (1 grn.)
Extr. Hyoscyami.....0.06 (1 grn.)
Extr. Cannab. Ind.....0.1 (1½ grn.)
Lupulini.....1. (15 grn.)
Butyr Cacao, q. s. ad. supposit unum.

Dr. tal. supposit No. x.

Insert one in the rectum as needed, two or three times a day. (For vesical spasm and tenesmus.)

(301) Chloral Hydratis,
Potassii Bromidi, aa.....6. (1½ dr.)
Syrupi Aurantii.....30. (1 oz.)
Aque Dest., ad.....90. (3 oz.)

Tablespoonful every three or four hours.

(302) Extr. Pichi Fluid.....60 (2 oz.)

One-half to one teaspoonful three or four times a day.

(303) Formin or Urotropin.....0.5 (8 grn.)

Dr. tal. dos. No. xx.

Take one powder in a glass of water before each meal. (If urine should be hyperacid a little citrate or acetate of potassium should be added to the water; if too alkaline, a few drops of mineral acid may be added.)

Formin in tablets (containing 5 and 7½ grn. each) is a very convenient form for administration. Dose: 3 tablets a day. Formin and aminoforn are chemically identical with urotropin.

(304) Saliformini (Formin
Salicylate).....0.3 to 0.6 (5 to 10 grn.)

Dr. tal. dos. No. xv.

One powder three times daily.

Proper and efficient irrigation fluids in a case of subacute cystitis are:

(305) Argenti Citratis 0.01 to 0.015 (1½ to 2½ grn.)
Aq. Dest.....90. (3 oz.)

Dr. ad. vitr. nigr.

Half the amount to be used lukewarm for vesical irrigation.

(306) Argentamini.....1. (15 grn.)
Aque Dest.....1000. (1 qt.)

Dr. ad. vitr. nigr.

One or two ounces to be used for irrigation, once or twice a day after the acute symptoms have ceased.

Later larger irrigations may be attempted. If the bladder seems to bear them, a solution of 1 in 500 parts of water may be used until all the symptoms are gone. Stubborn cases may demand a stronger concentration yet.

It may be mentioned here that argentine has a deeper reach into the tissues than silver nitrate, and is besides less irritating. Some other remedies in use and of certain value in acute inflammation of the bladder may here be mentioned. When the catarrh is of the mucous type, uva ursi is of undisputed benefit:

(307) Fol. Uvæ Ursi.....120. (4 oz.)
Cort. Aurant..... 30. (1 oz.)

Tablespoonful to be boiled in 3 tumblerfuls of water. Dose, half a tumblerful every three hours.

The isolated glucoside arbutin (the active principle of *Arctostaphylos Uva Ursi*) is also of great value:

(308) Arbutini.....1 (15 grn.)
Dr. tal. dos. No. xv.
Oæ powder three or four times a day.

Methylene blue has often given good results in recent cases of cystitis, and may be tried without any risk whatever:

(309) Methylene Blue (medicinal, Merck) 0.15 to 0.2 (2½ to 3 grn.)
Dr. tal. dos. No. xii in gelatin caps.
One capsule three times a day.

If irritation to the neck of the bladder sets in, add a little nutmeg powder to each capsule. Caution the patient in regard to the deep staining of his urine.

Where abundant suppuration appears, pyoktanin in solution may often be of curative effect used as an irrigation. The solution should be half or full concentration, or the powdered pyoktanin may be insufflated into the vesical cavity without harm. The restitution is often quick and very satisfactory. Sometimes a slight irritation appears at the start, but is of no serious importance.

Treatment of Chronic Cystitis.—The same rules given under the treatment of acute cystitis in regard to handling the patient, diet, etc., are to be observed in the chronic type. The general condition should be very closely observed, evacuation of bowels by salines, emptying of bladder at periodic intervals, and good sleep (at least eight hours) should be provided for. Total abstinence from sexual intercourse should be advised. Patient should be warned against condiments, strongly seasoned food, alcoholics, coffee, tea, and too sweet drinks. Light exercise in the open air, if possible; avoidance of overexercising, overheating, and dampness or cold to the lower extremities in particular. Well-administered cold baths, with good rubbing

and scientifically performed massage, will not only improve the congestion in the pelvic organs, but highly benefit the general condition.

The treatment may be accomplished in three different ways: (1) Internal medication. (2) Local medication, either by irrigation of the organ or by direct application to the affected parts of the organ by the aid of a cystoscope. (3) Radical surgical treatment.

The internal medication is indicated only in light cases and as an after-treatment. If satisfactory results are not obtained at the very beginning, no time should be wasted, but local medication resorted to as soon as possible.

We suggest, particularly, a fair trial of formin for several weeks if the urine is alkaline (see below). The formin may properly be continued even if local medication has to be used or surgical procedures are indispensable.

Irrigations of different kinds are recommended. In general, the common washing out of the bladder with a soft catheter attached to a glass funnel, as suggested by Kelley, is sufficient. Here the irrigation fluid contains some mild but efficient antiseptic (see below). In chronic cystitis the indication is to operate with rather large amounts of fluid, so that every fold may be expanded and well exposed to the irrigation vehicle.

In stubborn cases a continuous irrigation will give better satisfaction. A 5-per-cent. ichthyol solution has in such cases repeatedly given good results. Care must be taken that no obstruction in the canulas lead to hyperdistension of the vesical cavity. The temperature of the fluid used should be 105° to 110° F. In the female, if it is necessary to wash away thick pus, mucus, débris or clots clogging the passage, a cystoscope or a No. 8 or 10 speculum may be used. Through these instruments a smaller catheter may then be introduced for the irrigation. The instillation of different agents after thorough previous irrigation has also been used with great advantage. In tubercular conditions, Guyon, of Paris, allows a few cubic centimeters of a corrosive sublimate solution (1:4000 to 1:500) to remain ten to fifteen minutes in the diseased bladder. In gonorrheal trigonitis, an instillation of ichthyol (10 to 15 drops) or a 2-per-cent. solution of silver nitrate may be used every fourth day with good results.

Where morbid processes involve smaller and limited areas of the vesical linings, the local application is indicated. Here, also, we recommend the pure ichthyol as a sover-

eign remedy, as silver solutions, if strong enough for curative results, often lead to extreme irritation; again, in cases of tuberculosis they are particularly dangerous and not seldom aggravate the condition. For operative treatment, refer to text-books.

- (310) Formini.....o 5 (7½ grn.)
Dr. tal. dos. No. xx.

One powder or tablet in a tumblerful of water before meals.

- (311) Acidi Benzoici.....2. (30 grn.)
Rad. Glycyrrhiz. Pulv.,
Extr. Glycyrrhiz., aa.....i. (15 grn.)
Ft. pil. No. xxx.
Two pills every two hours.

For irrigations:

- (312) Acidi Borici.....10. (2½ dr.)
Dr. tal. dos. ad chartas No. vi.
Dissolve one package in ½ quart of warm, sterilized water, and use for irrigation once a day.

- (313) Argent Nitr.... 0.2 to 0.5 (3 to 8 grn.)
Aq. Dest.....500. (1 pint)
Dr. ad. vitr. nigr.
Use for irrigations of the bladder every three days. (Should be about 105° F. when used.)

In the intervals a solution of boric acid (6:300) should be used once or twice a day.

- (314) Potassii Permanganatis.... 1. (15 grn.)
Aq. Dest.....4000. (4 qts.)
To be used lukewarm for vesical irrigation, once or twice a day.

- (315) Ichthyol..... 10. (2½ dr.)
Aq. Sterilisatæ.....1000. (1 quart)
To be used warm for irrigation of the bladder once a day.

The use of hydrogen peroxide inside of the bladder is absolutely contra-indicated and should never be resorted to unless in local treatment of circumscribed areas, where we only slightly touch the diseased spots with a cotton-applicator.

- (316) Sodii Boratis..... 10. (2½ dr.)
Aq. Dest., ad.....500. (1 pint)
To be instilled by means of an Ultzmann's irrigation catheter once a day.

In case of persisting hematuria:

- (317) Secali Cornuti..... 5. (75 grn.)
Cort. Cinnamomi..... 3. (45 grn.)
Fiat decoctum, ad.....150. (5 oz.)
Colaturæ adde:
Potassii Bitartr..... 10. (2½ dr.)
Syrupi Simpl..... 30. (1 oz.)
Tablespoonful every two hours. (Guttman.)

Among old remedies and formulas of certain value in mild cases of chronic cystitis, we may mention:

- (318) Decoct. Fol. Uvæ Ursi. 20.300 (5 dr. to 10 oz.)
Acidi Nitrici Dilut.....12. (3 dr.)
Pulv. Gummi Arab.....20. (5 dr.)
Tablespoonful three times a day (when urine is alkaline).

- (319) Flor. Verbasci,
Semin. Lini,
Rad. Althææ, aa.....30. (1 oz.)
Tablespoonful in a teacupful of hot water used as a tea twice or three times a day.

- (320) Bacc. Juniperi.....20. (5 dr.)
Fol. Uvæ Ursi,
Fol. Buchu, aa.....10. (2½ dr.)
Dr. ad. scatulam.
Used as a tea two or three times a day.

- (321) Saloli,
Sacch. Lactis., aa.....o 6 (10 grn.)
Dr. tal. dos. No. xv.
One powder every two hours.

In cases of chronic cystitis with atony, the following formula is very useful:

- (322) Cantharidini Puriss.... 0.00015 (1/100 grn.)
Spir. Vini.....Gtts xv. (15 drops)
Aque Dest., ad120. (4 oz.)
Teaspoonful three or four times a day.

CHLOROSIS (a certain form of primary essential anemia in young females, fourteen to twenty years, probably due to metabolic consumption of hematogen for sexual purposes at puberty; the condition is also often called "green-sickness").—The oligocythæmia is not so pronounced in chlorosis as in many other anemias, but the amount of hemoglobin is always decreased, sometimes 30 to 40 per cent. below the normal. The therapeutic aim should be to restore the lacking ingredients of the blood, which purpose may be attained by proper hygiene and iron medication. Concerning hygienic measures, the first rule should be to procure full access to fresh and, if possible, sunny air, plenty of healthy, albuminous food, and as much rest to the muscular apparatus as possible; in stubborn cases the patient fares best in bed, with good air-supply in the room.

In regard to the diet, we have to observe the general constitution very closely. If the patient is robust, with a well preserved panniculus adiposus, the carbohydrates and fats are contra-indicated, and vice-versa. Where tendency to constipation exists, milk diet should be forbidden. Eggs, meats, game, and butter are to be recommended. Vegetables containing iron, especially spinach, well chopped and prepared, are of great value in chlorosis and should be liberally allowed. Proper cooking and thorough mastication is, of course, to be insisted upon.

If patient desires alcoholic drinks, a good beer (rich in extractives) in small quantities is to be preferred; wines and other fermented beverages often lead to heart palpitation and nervous symptoms. Daily evacuations of the bowels are imperative, and if sluggishness in this respect exists, mild laxatives, as saline waters, compound licorice powder, or mild abdominal massage may properly be recommended.

Some practitioners not only advise but almost urge generous exercise, even where patients object on account of fatigue and weakness. We consider such measures very

improper and dangerous. Experience has shown rest to be the most reliable and speedy assistant.

In regard to medicinal treatment, the iron preparations still retain their undisputed reputation.

First of all we recommend Blaud's pills:

- (323) Ferri Sulphatis,
Potassii Carbonatis, aa. . . . 15 ($\frac{1}{2}$ oz.)
Tragacanth, q. s. ad massam.

Ft. pil. No. c.

Two to four pills after meals.

[The official formula for making Blaud's pills is superior.]

If, contrary to all expectation, these pills should give distress, a weaker compound may be used for a while until the stomach is improved. In such a case the following formula may properly be used:

- (324) Ferri Lactatis. 4. (1 dr.)
Euquininæ. 1.5 (24 grm.)
Extr. Gentianæ. q. s.

Ft. pil. No. xl.

Two pills after each meal.

This preparation is especially fit for cases suffering from gastric disorders and nervous headache. May be continued for several weeks, but should then be exchanged for Blaud's pills until full recovery.

When there is lack of appetite, the following will be beneficial:

- (325) Liq. Ferri Albuminatis. 90. (3 oz.)
Teaspoonful three times a day.

Of natural iron waters we may recommend Pyrmont, Rippoldsau, Ronneby, and Cudova. Among artificial iron waters, the pyrophosphate of iron waters are the most in vogue. Also arsenic waters (Levico, Roncegno, and others) seem to have a good influence on the general constitution but should never be resorted to unless iron preparations have first been given a fair trial.

SODIUM GLYCOCHOLATE IN DISEASES OF THE LIVER¹

By T. W. Keown, M.D., of Baltimore, Md.

MANY experimenters have proved conclusively that none of the so-called cholagogues of the materia medica increases the quantity of bile eliminated, a few of them, notably sodium salicylate, increase the water, but the solids of the bile excreted are reduced; there is a remarkable unanimity in their results and in their dictum that the bile acids are the only substances which will increase both the quantity and the solid substances of the bile eliminated.

The physiologic action of the bile salts can be summed up as follows:

1. Injected even in small doses into the

blood stream they produce a widespread disintegration of red blood corpuscles with a liberation of hemoglobin; brought into contact with the cells of the body they cause their disintegration.

2. They have a cholagogue action; in fact, are the only substances known to possess the power and actually cause an increased flow of bile, both solid and liquid constituents being increased.

3. The presence of bile in the blood acts as a stimulus to the liver cells.

4. In small doses they aid coagulation.

5. In large doses they arrest coagulation.

6. In very small doses they act as vasodilators.

7. In large doses they act as vaso-constrictors.

8. They reduce motor and sensory irritability.

9. They slow the heart beat by direct action on the heart muscles and the cardiac ganglia.

10. They act on the higher cerebral centers, causing coma, stupor and death.

Under these physiologic conditions, numbers 1, 2, 3, 4 and 6 may be considered as normal actions, while 5, 7, 8, 9 and 10 are pathologic and due to excess in the blood.

Crofton's experiments suggest that the quantity of bile acids formed in the system is, under normal conditions, small, being only sufficient to supply the loss from the intestine. Purgatives or diarrhea will probably reduce the amount of bile acids in the body, a greater quantity being eliminated with the feces owing to the decreased time for absorption in the intestine.

The bile acids also play an important part in the digestion and absorption of fats by splitting off a part of the neutral fats and by aiding the emulsification of the remainder. Dr. Joslin has shown that in a case of biliary fistula the absorption of fat was increased 50 per cent. by the administration of bile acids. The bile has little or no antiseptic action, and the increased putrefaction in alcoholic stools is due to excess of fats which, surrounding the proteid particles, prevents their digestion and absorption, increasing the amount of stool as well as the growth of putrefactive bacteria.

From the foregoing, the importance of a sufficient secretion of bile acids to the well-being of the organism is apparent, and any continued reduction in their amount must act prejudicially to the organism. In jaundice, where the bile, owing to obstruction of the duct, finds its way into the blood stream through the lymphatics, the toxic effect can be observed, producing the symptoms stated in the paragraphs above numbered 5, 7, 8,

¹Jour. Amer. Med. Assoc., Aug. 16, 1902.

9 and 10. There is another condition which may be described as icteroid commonly observed in patients suffering from alcoholism with cirrhosis, the morphine habit, chronic malaria and many other affections in which the liver is involved where the skin obtains a dirty brownish-yellow color, the sclerotic being more or less tinged with a lighter yellow with patches of dark brown on various parts of the body known as "liver spots," differing in shade and location from the bronzing of Addison's disease. This discoloration has been analyzed and proved to be bilirubin, viz., bile pigment, which has been precipitated from the blood into the skin from want of sufficient solvent. No symptom is probably more diagnostic of torpid liver and deficiency of bile acids than this discoloration of the skin; clinical evidence that this is the cause of the symptom is that the skin will become of normal hue and the liver spots gradually disappear after the administration of sodium glycocholate for a month or two, while the apathetic, listless, tired feeling of which the patient complains gives place to normal cheerfulness and activity. The older physicians recognized the connection of the biliary secretion with depression by giving the name of melancholia to that form of insanity in which depression is the principal mental symptom.

Gallstones and the resultant hepatic colic is a very obstinate form of disease, some patients passing their lives either in the agony of an attack or in the expectation of the next. As has been stated, the bile acids are the natural solvents of cholesterin and pigment, and it is due to an insufficiency of this solvent that these substances are precipitated on to any nucleus of foreign matter which may find its way into the gall-bladder.

That sodium glycocholate will prevent the formation of gallstones is very probable, and it is natural to suppose that a continued excess of bile acids in the bile will act upon the stones in the bladder and gradually dissolve them. The author has dissolved both cholesterin and coloring-matter stones in the laboratory in three or four days with a 1-per-cent. solution of sodium glycocholate at body temperature. The cholesterin stones soon become friable so that they can be crushed to powder with the finger, while the coloring matter concretions dissolve with ease.

Dr. H. Burton Stevenson furnished the author with an illustrative case. A woman, aged fifty-four, complained of recurring attacks of pain radiating over the abdomen and to the shoulder, with nausea and vomit-

ing; a diagnosis of gallstones was confirmed by finding the stones in the feces. The attacks occurred with considerable regularity about every four weeks, and during one year he saw her in no less than ten attacks. The usual treatment of sodium phosphate, etc., was tried with no effect, and though strongly advised, she refused operation. In April, 1900, he gave her 5 grn. of sodium glycocholate t.i.d. for twenty-one days, twice daily for another twenty-one days, and once daily for another twenty-one days. Since discontinuing the medicine in June, 1900, she has been absolutely free from attacks; her attacks dated back four years from the first time he saw her. In this case Dr. Stevenson is of the opinion that the administration of the sodium glycocholate not only prevented the formation of any more gallstones but dissolved those which he believed remained in the bladder after the last attack.

According to Dr. Richardson, sodium glycocholate has been used extensively in Mt. Hope Retreat, where they were led to suspect a torpid condition of the liver; especially so in cases of alcoholism, morphine habit, neurasthenia and melancholia has it been very successful, acting as a purge for the liver with a result such as could not be obtained by any other drug, using regularly 5 grn. three times a day, and occasionally going as high as 15 grn. in cases of obstinate constipation, producing a slight diarrhea for a day or two, after which the bowels were more regular.

The author has used sodium glycocholate in St. Agnes' Hospital in two cases of pulmonary tuberculosis, using 3 grn. t.i.d. for the better emulsification and absorption of fats in the forced diet of such cases, one gaining 10½ pounds and the other 9 pounds in 3 weeks. It is of use in all cases where the rapid absorption of fat is desirable—convalescents from typhoid fever, cases of diabetes mellitus, etc. He has used it in three cases of morphine habit, not as a cure for the habit, but rather in the nature of a cosmetic, as it certainly improves the color of skin and removes that muddy appearance so usual in those cases. The results were quite satisfactory. The bile is rendered more fluid and is more freely eliminated from the liver than it was when the patient was in the habit of using morphine which, as is well known, lessens all secretions. In a neurasthenic case whose complexion was of the same pasty, dirty color, excellent results were obtained by using sodium glycocholate alone without any other treatment.

The indiscriminate use of sodium glyco-

cholate is to be avoided; it is not suited to all cases, and although there are no contra-indications for its use, yet good results are only to be expected in those cases of gall-stone formation of so-called torpid liver as found in certain diseases, such as alcoholism, drug habits, melancholia and its congeners, constipation, chronic malaria, etc.; it also materially aids the digestion of fats and may prove a useful adjunct in wasting diseases of all kinds.

THIOSINAMINE IN OPHTHALMOLOGY¹

Clinical and Experimental Observations with Reference to Corneal Opacities and Other Ocular Lesions¹

By George F. Suker, M.D.

Professor of Ophthalmology in Post-Graduate Medical School, Chicago

ALL the experiments and clinical applications of thiosinamine bear reference to its especial resolvent action upon cicatricial tissue. In this particular it has been used for the removal of keloids, lupus, urethral strictures, rheumatic joint affections and for various dermic lesions. In studying the reports of cases from the above class, it must be admitted that thiosinamine has a more or less specific action upon cicatricial tissue. This action is in the nature of a resolving or loosening.

In view of the fact that it has found a suitable field of application in general medicine, it has led experimenters and clinicians to determine its efficacy in such a class of cases in ophthalmic practice in which there is a cicatrix or an opacity interfering with the proper functioning of the eye or its adnexa.

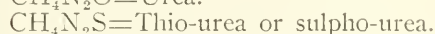
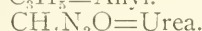
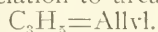
THE CHEMISTRY OF THIOSINAMINE

Before detailing any clinical data or mentioning the appropriate class of cases in which thiosinamine is possibly indicated, let us briefly recount its physiologic actions and chemistry. For it is the rationale of these that has led to its use in ophthalmic practice.

As to its chemistry, thiosinamine is an allyl-thio-carbamide or allyl sulpho-urea in its construction. It can be obtained by mixing two parts of the oil of black mustard seed (CSNC_3H_5), one part of absolute alcohol, and seven parts of aqua ammonia (sp. gr. 0.960). This mixture is gently heated over a water bath to 104° ; after several hours the same is evaporated over the water bath, when the crystals of thiosina-

mine are thrown down. The chemical equation for this is $\text{NH}_3 + \text{CSNC}_3\text{H}_5 = \text{CSNC}_3\text{H}_5\text{NH}_2$.

The following formula shows its close relation to urea:



The allyl, being an unsaturated monovalent radical, is readily satisfied by the sulpho-urea, thus producing thiosinamine.

It is in the form of glistening white acicular crystals, soluble in alcohol and water.

PHYSIOLOGIC PROPERTIES

Thiosinamine possesses no bactericidal properties whatsoever. Physiologically, we must look upon thiosinamine as an active alterative, thus virtually belonging to the same group of remedies as potassium iodide, mercury and the like. It is a gastric tonic. Thiosinamine is an active gland and lymph stimulant, in addition it always produces a hyperleucocytosis. However, several hours after the first injection a marked hypoleucocytosis prevails—this is rapidly followed by a hyperleucocytosis. The white cells may drop from 14,000 to 4,000 (Hebra). The hyperleucocytosis following the momentary hypoleucocytosis continues throughout the period of administration, though not as active as at first. Transudates and exudates are rapidly absorbed when thiosinamine is given. It produce local reactions without any general disturbances.

In briefly summing up its physiologic actions, we can say that it is indicated whenever it is desirable to have a local reaction in an inflamed, cicatricial or poorly nourished area, without materially influencing the general system as a whole; and, whenever a glandular stimulant is indicated or a hyperleucocytosis is desirable.

INDICATIONS FOR USE

Though thiosinamine has been employed in many fields of medicine, its proper place is in the treatment of corneal opacities. Here it accomplishes the most good, yet the genito-urinary surgeon claims excellent results in urethral strictures.

However, our interests center in ocular lesions.

The class of cases in which thiosinamine is indicated is: (1) Corneal opacities from any cause whatsoever. (2) Cicatricial contractions of lids following trachoma. (3) Certain intra-ocular inflammations, as exudative choroiditis. (4) Symblepharon. (5) Capsular opacities following cataract extractions (experimental). (6) Ectro-

¹Read at the Fifty-third Annual Meeting of the American Medical Association. *Jour. A. M. A.*

pion, especially cicatricial. (7) Plastic iritis.

ESPECIAL VALUE IN OPACITIES

Though it accomplishes much in every one of this variety of cases, yet its greatest good is seen in corneal opacities. Still, the amount of success achieved in corneal opacities is dependent upon the nature of the opacity. Now, every corneal opacity, whether dense or not, is practically of the same cause. Briefly stated, corneal opacities result from:

1. True cicatrices in consequence of actual corneal tissue loss.
2. Infiltrations of lymph, blood or serum between the corneal lamellæ which remain unabsorbed and perchance are of a low type of organized tissue.
3. Exudates, due to inflammatory reactions of the corneal layers themselves and which have remained unabsorbed or are partially organized.
4. Inflammations of the iris and ciliary bodies secondarily implicating the cornea and causing opacities, *c. g.*, keratitis punctata. The density and size of the opacity are dependent upon the severity and nature of the corneal involvement.

Whenever the opacity is a true cicatrix, especially when involving both Descemet's and Bowman's membrane, then I doubt whether any medication whatsoever can be of avail—not even thiosinamine being capable of doing much good. True, every cicatricial opacity is accompanied by a certain infiltrate or exudate in its immediate neighborhood. This much of the opacity can be removed, and to this extent only is the opacity cleared up and thus the visual or cosmetic effect improved.

It is superfluous to make the remark that you cannot remove or revitalize, as it were, true cicatricial tissue; for, it is the only way nature has to repair or replace any loss of the original tissue. And no repair throughout nature, even though effected by nature itself, is as good or of the same standard in every particular as the original tissue.

However, it is different when the opacity is due, not to cicatricial tissue, but to an infiltrate or an exudate pure and simple. It matters little whether the exudate or the infiltrate is organized or remains as a so-called foreign innocuous substance within the corneal tissues. It is in these opacities that thiosinamine accomplishes the most, because it stimulates the glands, produces a hyperleucocytosis and thus increases the metabolic changes in the cornea, thereby removing the exudates or infiltrates.

In some cases more good is obtained than

in others, though they are of the same practical clinical aspect. But this is true of any therapeutic agent.

USEFUL IN ECTROPION

The next field of application is in the cicatricial contractions of the lids, producing the very annoying condition of ectropion. In all such cases the writer advocates the very thorough trial of thiosinamine before resorting to any operative procedures, for the reason that the application of a 10 to 15 per cent. thiosinamine ointment with massage to the contracted lid, as well as the internal administration thereof, will so modify the tension of the cicatrix as to be an important factor should an operation be ultimately necessary. If the ectropion is not very extensive or due to over-firm cicatrices, then thiosinamine will often overcome the defect. It loosens the cicatrix and thus allows the lid to resume its natural position. Though it may not relieve every form of cicatricial ectropion, yet it will so modify them all that the operation is materially benefited and the success thereof will be correspondingly greater. Hence, we can see that the application of thiosinamine in such cases is of no small importance. Sinclair Tousey and the writer have had signal success in cases of ectropion of the milder cicatricial variety.

In this connection, it may be said that thiosinamine often yields excellent results in the cicatrices of the tarsus and conjunctiva which are often the unpleasant sequelæ of trachoma. Here the remedy may be applied locally as an ointment to the everted lid, as well as being administered internally. Especially is it of value when grattage has been resorted to in order to effect a cure of the trachoma.

CHOROIDAL EXUDATIONS

With reference to the benefit derived from the administration of thiosinamine in exudative diseases of the choroid and retina little remains to be said. After faithfully trying it in several recent cases, as well as in cases of long standing, of choroiditis exudativa, the writer finds that at times it achieves rather remarkable results. Yet the number of cases have been too few to definitely state its true value in this behalf. It seems to hasten the absorption of choroidal exudates when administered directly after the acute stage.

Though it does not accomplish as much in choroiditis as it does in corneal opacities, yet it does prevent the exudates from becoming too extensively organized, thus destroying

the physiologic action of the choroid. As there is in nearly all such cases a cloudiness of the vitreous due to an exudate or infiltrate, the administration of thiosinamine materially mitigates this vitreous implication and maintains to uphold its transparency. For this reason, then, if for no other, is the drug indicated in cases of exudative choroiditis of the disseminate variety. Clinical experience has taught the writer that if in such cases as just mentioned, the thiosinamine is given with the potassium iodide and mercury, the results are better than when thiosinamine is not given. From no remedy can we expect an absolute *restitutio ad integrum* when once a lesion has taken place in a tissue. Yet, we can expect a partial removal of the effete material from said tissue by the administration of so-called alteratives—and thiosinamine is an alterative.

OTHER USES OF THE DRUG

Black, of Denver, has achieved some remarkable results with thiosinamine, not only as regards vision, but also from the standpoint of cosmetics. In several of his cases the unsightly corneal cicatrices were remarkably reduced in density so as to be less unsightly. This, then, is another field of applicability, namely, to reduce dense corneal opacities for the sake of appearance, even if we fail to improve the acuity of vision.

Again, the writer has seen good results follow its use in plastic iritis. It forms a material adjuvant in this particular disease when given in conjunction with the other indicated agents. It hastens the removal of the plastic exudate, and to this extent materially modifies the end results as far as iridic adhesions and capsular opacities are concerned. Though it does not always produce the desired effects, yet it is worthy of trial in such cases.

In addition to the variety of indications already mentioned, thiosinamine can be used to advantage for the sequelæ following trachoma, phlyctenular keratitis, pannus, and such other lesions as produce cicatrices or opacities, due to either an acute or chronic condition of the cornea or conjunctiva.

Experiments have been made to determine whether or not it would prevent the maturing of cataracts or the formation of capsular cataracts, but no results of any value whatsoever have been obtained. This point is deserving of only a passing mention as a clinical experiment. For, in the hands of the writer, experiments along this line have been absolutely fruitless.

The foregoing remarks fully cover the

indications for thiosinamine without entering into the minute details and, in a measure, state what is to be expected when it is administered in suitable cases.

MODE OF ADMINISTRATION

Now a word or two concerning the mode of administration. Opinions in this regard seem to differ widely. Some, as Black, Newton, and others, prefer the hypodermatic injections two or three times a week. Again others, as Tousey, Ruoff, and Beck, give preference to the administration per month. The weight of experience is in favor of 3-grm. capsules once or twice a day. The hypodermatic injections are not very desirable, as the solution does not keep overwell. Not only that, but abscesses are prone to follow: this has been the writer's experience. For topical applications a 10-per-cent. ointment is the most efficient. The latter can be applied two or three times a day, together with massage of the part.

The idea of employing subconjunctival injections of thiosinamine for corneal opacities occurred to the writer but a short time ago. The fact that it is used locally for keloids led to the experiment. A 10-per-cent. aqueous glycerinated solution is used. Of this 15 minims are injected three times a week; however, before administering thoroughly cocaine the eye. The injections are not painful, nor do they cause any great inconvenience. Whether or no they will accomplish more than the other mode of application is as yet an open question. Judging, however, from the results obtained in keloids, they might be productive of good in corneal opacities. Still, it being a general glandular and leucocytic stimulant, it seems rather problematical for local injections to accomplish more than the internal administration. Yet, often when agents are used locally in this manner they are more rapid in their actions than otherwise. This may be true of the subconjunctival injections of thiosinamine. However, repeated experiments and time will be the final judge in this matter.

Thiosinamine can be given with impunity to any patient of any age and, as a rule, in any state of the disease. Experience, however, pertinently teaches us not to give it freely in such cases as have a latent focus of tuberculosis or are convalescing from an articular rheumatism (Upsam). This warning is a good one, as the formation of a tubercle requires many leucocytes, and as uric acid is to a great extent dependent upon cell destruction. For, leucocytes are readily destroyed when not acting as phagocytes. We can, therefore, easily see how these two dis-

eases would be aggravated were we to give it for any eye lesion present in such cases.

The results obtained are permanent in every case. That this is so is not very surprising when we consider that it simply causes exudates or infiltrates to be absorbed or fibro-cicatricial tissue to become less dense. For, should the results not be permanent, it would indicate the return of the original cause of the lesion for which it had been primarily prescribed.

Thiosinamine can be given for varying lengths of time, from one month to two years. After the patient has been taking it for five or six weeks, it is advisable to intermit a week or ten days and then begin again. In some cases it must be given for several months before any appreciable effect is noticed. It therefore behooves us not to be discouraged. The writer has had cases under treatment for six months before any improvement was noticed. These have all been cases in which the opacity of the cornea was very dense. The delay seems to be due to the fact that only a moderate hyperleucocytosis obtains instead of a very marked one—the same being true with reference to its power of stimulating the lymph glands.

RESULTS OF ITS USE

Now, what can we expect when thiosinamine has been properly given in selected cases. Firstly, we get a decided thinning of dense corneal opacities, they becoming nebulous as a rule. The cicatrices in ectropion become more pliable and thus materially modify the ultimate operation, if one is needed. The exudates, transudates and infiltrates in any of the ocular structures are more readily absorbed.

As a whole we may sum up the actions of thiosinamine as follows: (1) It is a marked tonic. (2) It favors the absorption of exudates, transudates and infiltrates. (3) It clears up corneal nebulæ. (4) It produces local reactions without general systemic disturbances. (5) It reduces glandular swellings. (6) It causes cicatricial tissue to become soft and pliable.

THE AUTHOR'S EXPERIENCE

In conclusion permit the writer to make a brief tabulated review of a series of cases treated during the last year with thiosinamine. In the report only the general results are mentioned.

1. Exudative choroiditis, 6 cases; improvement in 4, none in 2.

2. Corneal opacities, very dense, 10 cases; improvement in 6 with visual improvement of varying degrees; none in 4.

3. Corneal opacities, nebulous, 8 cases; marked improvement in 4, both in appearance and vision; moderate improvement in 2, both in appearance and vision; no improvement in 2.

4. Plastic iritis, 6 cases. Benefit in 2; no benefit in 3; slight benefit in 1.

5. Capsular cataract, 3 cases. Not the slightest improvement in any (thiosinamine tried as an experiment).

6. Ectropion (moderate cicatricial), 3 cases. Improvement in 2; none in 1.

Finally, the writer wishes to say that one is not to look upon thiosinamine as a panacea for every corneal opacity or other ocular lesion in which it is indicated, but that it, like other medicinal agents, is entitled to consideration in a certain class of cases.

In the discussion that followed Dr. H. G. Sherman, of Cleveland, Ohio, said that three years ago a most distressing case came under his observation: a young lad of seven years was scratched in the eye by another beneath whose finger nails there existed pathogenic germs very virulent in nature. The ensuing interstitial keratitis due to the exogenous microbic infection resulted in numerous cicatrices, reducing vision to 21/100. The condition baffled all treatment until his attention was called to thiosinamine by the investigations of Sinclair Tousey, of New York, who found that the hypodermic administration of the drug rapidly produced an increase of the white corpuscles of the blood, exciting a coördinate activity on the part of the connective tissue cells, bringing about an absorption of adventitious tissue, the débris being eliminated through the blood. After employing thiosinamine in the above case in 1-grm. doses three times a day for a period of one year, continuing the drug for a period of eight weeks with intermissions of ten days, the vision was improved to 20/40. Thus encouraged, he has employed the drug in all cases of avascular chronic keratitis resulting in cicatrices, and has found it a valuable remedy, in nearly all cases improving the acuity of vision, and producing no marked untoward symptoms other than slight nausea and dizziness which pass away after a day or so. Mendel and Remak, however, have reported several cases in which entire groups of muscles have been more or less affected in their motor and sensory functions temporarily. He believed from his experience with a large number of patients in which this drug was employed that it is of great value, and should find ready recognition in this class of most distressing cases.

Dr. R. L. Randolph, of Baltimore, al-

luded to the use of thiosinamine in a class of cases which has not been mentioned. He has had good results follow its use in tinnitus and he thinks its good effects are due to its action upon the vascular system. In some instances where he could get no improvement with anything else, he has had very good results with this drug. He has never given it oftener than three times a day and in $\frac{1}{2}$ -grm. doses, and a number of times he has had vertigo follow its use.

Dr. Suker, in closing, said that he had not found a patient that could not take 3 grm. twice a day, but it is important to bear in mind that there must be an occasional intermission of ten days to two weeks.

INDIAN MEDICINE¹

By Nelson W. Wilson, M.D.,

Sanitary Officer, Pan-American Exposition

IN presenting to you some of the phases of Indian medicine, I wish to disclaim any pretense to being a student of Indian practices. I merely tell what I saw and learned of a most interesting method of practicing medicine among the Redmen during a six months' association with the Sioux Indians, and their really remarkable medicine man and his mysterious medical ways.

Whatever one may say of Indian medicine men they must as a class be given credit for earnestness and a superior sort of intelligence, and while it must be admitted that some of their practices and methods are strongly flavored with a tinge of Christian Science and allied fakes, their prayers are used merely to add to the efficacy of the drugs which they administer or the massage which they practice, and are the natural result of superstition in-born generation after generation. In explanation of this it is well to know that the Indian looks at everything upside down, so to speak, and he is imitative. The medicine man occupies a unique position in his tribe. His work is not strictly confined to the practice of medicine; he is a man of consequence and his fastings and his prayers and his self-denials make him in the eyes of his people a man who is in close communion with the spirits of the air and the waters and the elements.

The Cheyenne, or Black Apache medicine men, for instance, when a storm arises in the mountains above the camp, sprinkle about the ground and toss into the air handfuls of cornmeal, and dance and pray that the storm may remain in the

mountains and not come down into the valley to destroy the crops or the homes of their people. Cornmeal is used because it is quite sacred in the eyes of an Indian. Corn is a gift of the gods and it is what gives the tribe life; and if they make an offering of what gives them life, they argue that the gods will turn the storm that they may not die. They believe that the earth is peopled by beasts and gods. To the Indian the animals, the snakes, the birds, the fish and every living thing which is not human is a god and the men are the beasts. And they have reached this conclusion by a simple method of reasoning. Look, they say, a bird flies through the air; if a man tried to do that he would be killed; a snake moves along the ground on his belly, that a man cannot do; fish live in water, if a man did that he would be drowned; hence, all these things are gods and because man cannot do what they do and live he is a beast.

One of the most interesting features of the Pan-American Exposition was the Indian Congress, where lived in all their glory of dirt, gaudy dress and laziness, some 200 Indians of various tribes. They lived there as they lived on the plains, in tepees; they cooked their food over camp fires, the squaws did all the work and the men smoked cigarettes and posed for the kodak fiend when they were not gambling. It was all very pretty and picturesque, the only feature of savage life lacking being the scalping of the pale face. The simple-minded red man made up for this, however, by skinning his beloved white brother every time he sold him a piece of bead work or a handful of feathers.

As sanitary officer of the exposition it was a part of my duty to watch over the health and living methods of the various natives on the Midway. I visited each village several times a day and while I was tolerated in the Philippines, welcomed in Venice, damned in Damascus and cursed in Cairo, the Indians looked upon me by virtue of my office as a chief and treated me as such, respecting and obeying orders regarding health matters. Not many days had passed before it was generally understood that I was a medicine man and the medicine man of the tribes. War Bonnet, a grave and dignified old Indian, sought me out and through an interpreter, begged me in the flowery language of the Sioux, that I honor him by a visit to his tepee.

I will confess that my curiosity to learn something of War Bonnet's methods had quite as much to do with my acceptance

¹ *Buffalo Med. Journal.*

of the invitation, as my sense of professional courtesy. I smoked the long pipe and spent a very pleasant half hour with the distinguished old Indian, who for the time cast aside all professional reserve and so far unbended as to tell me how many people he had raised from the dead, and of some marvelous cures he had wrought. I gave him a slight token of my esteem and regard and from that day was War Bonnet's "brother."

I wanted to see as much of Indian medicine as possible and to that end had all sick Indians report to me each morning. For the first few weeks there was nothing more serious than colds, headaches and indigestion. Then Rocky Bear, a sub-chief, broke his leg and was sent to a city hospital. He was properly cared for, but the next day demanded to be returned to his tribe and was brought back. The same night when I visited him I found the dressing had been removed and that War Bonnet was in attendance. The interpreter told me I could not stay because the medicine man was working. Rocky Bear grunted "How" and held out his hand, and War Bonnet, speaking in Sioux to the interpreter, said I was a medicine man and his brother and should remain; but that Rocky Bear wanted Indian medicine. War Bonnet's medicine case—a buckskin bag—was on the ground beside the fire. It was filled with smaller bags containing coarse and fine powders, dried roots and leaves and some chunks of what looked like suet. There was the back of a turtle shell, a tin can of fat, and the skull, with beak attached, of a red-head woodpecker.

In sign talk Rocky Bear informed me that he had much pain in his leg and that he had not slept; that War Bonnet was going to take all the pain away and put him to sleep. The medicine man had a pan of coals by his side. Over this he warmed his hands after smearing the palms with grease, which I afterward learned was bear fat; he dipped his finger into a little bag containing a greenish powder and mixed it with the grease, then into a bag of white powder which he also mixed up. With this he rubbed the broken leg, carefully, gently, all the while chanting a weird but not unmusical song. Occasionally he would change the powders.

In from ten to fifteen minutes Rocky Bear said his pain was gone. In half an hour he was drowsy and before we left a short time after, he was asleep. Before leaving the tepee War Bonnet bound up the leg with a splint and thongs.

I could never get a very definite idea regarding the character of his powders other than that he made them from roots, herbs and portions of animals and birds. Twice a day he treated Rocky Bear and when the latter went back to the reservation he had a pretty good leg. There was a continued use of the splint and I must say for War Bonnet that he put that leg up in a well-approved fashion.

In explaining the treatment to me afterward, he said that he used the splint to keep the bones together, and that he took it off and rubbed the leg to let the blood get through and keep the leg alive, adding wisely that if the splint was left on, the leg would die.

Just about this time I had a unique experience with Indian humor. In spite of his reserve the Indian is full to overflowing with wit and he uses it in a most unaffected manner. A dignified chief is quite as apt to be the victim of a joke as the tribal fool. While they respect dignity it is no bar to the perpetration of a witticism. I carried with me on my rounds a small medicine case containing tablets. One morning when I was hearing the complaints of those who were not well, there was a great deal of giggling among the squaws following a monologue by Yellow Shirt. The interpreter answered him. Yellow Shirt again spoke and there was a general laugh. I smiled in a companionable sort of way, wondering who the victim was, and as a matter of curiosity asked the interpreter.

"It's nothing," he said, but his eyes twinkled and I insisted.

"It's pills," he said.

"Pills?"

"Yes. They say: 'Pills, pills, pills. Pills for headache; pills for cold; pills for fever; pills for the bowels when they move too much; pills for the bowels when they don't move at all; it's pills, pills, pills.'"

"Nothing funny in that," I said.

"No. Yellow Shirt say give Katy White Deer pills for baby. That's the joke."

Katy White Deer, it might be remarked parenthetically, was an old maid and the language she used toward Yellow Shirt was never taught her at the mission back there on the plains.

The Indian does not want pills or tablets. He wants liquid medicine and he wants it so he can taste it and remember the taste after he has taken it. The worse it is the better he likes it.

During the mid-exposition period there appeared at the Indian Congress a coterie of women from the red-light district and it

was not long before a number of the bucks had picked up the white man's burden, and were on the sick list with gonorrhea and all its complications. Those who were so fortunate as to contract the disease early in the rush received Indian medicine from War Bonnet—a tea made of the chiniwoya leaves, or mountain rush. In the west this is known as “clap weed” and the decoction as “mormon tea.” It was drunk in large quantities and arrested the discharge in a remarkably short time. The supply on hand was soon used up and more was sent for. This found patients awaiting its arrival.

I do not mean by this to reflect on the morals of the Indian. He is not immoral in the general sense of the term. As long as he is single he will go a-visiting and a-courting, but seldom or never in his own tribe unless he is looking for a bride. His pasture of pleasure is far removed from that in which his own sheep are flocked. But once married his ideas of morality become rigid.

A man came to me with a painful and enlarged inguinal gland. I inquired concerning gonorrhea, and the interpreter, surprised, answered: “Of course, he hasn't had it. He has been married ten years.” So sure are they of one another in this respect that the interpreter absolutely refused to question the man concerning venereal disease.

When it became an assured fact that War Bonnet had confidence in his “white brother,” I ventured to ask questions concerning his practice and the material he used. There were some things which he could not or would not tell me of; for example, the process he used to produce sleep. He claimed to be able to keep a person asleep for a week without ill-effect and the interpreters told me they had seen such things done many times. The woodpecker skull and beak he used to mix medicines in the turtle shell. There is supposed to be some sort of special virtue in the woodpecker when it happens to be a red head, not only in medicine but in the making of charms and ornaments. The bear grease was used merely as a base for his ointments, the powders added being lizards, fish, various parts of animals and birds; pulverized leaves, roots and flowers. There was one powder, coarse and grayish white, which was more highly prized than all the rest of the stuff which War Bonnet carried. This was said to be the bones of an animal “like the elephant, only bigger, much bigger,” as the interpreter put it. These bones are found deep down

in the ground in the foot hills and the location is known only to the medicine men of the different tribes. There was, too, a paste which was strangely like ichthyol in odor and color.

When Baby Johnny Ghost Dog died of an inspiration pneumonia, brought on by the inhalation of grains of partially cooked rice, he was in the exposition hospital. War Bonnet had not treated him at all and took advantage of that fact to impress on the minds of the tribe the presence of an evil spirit on the grounds,—a spirit which only he could exorcise. A few days later Mary Pretty Boy, a three-year old child, was seized with convulsions. I was in the camp at the time and one of the interpreters called me. In the tepee the father sat holding the child across his knee. The mother had run away in a panic of fright when the baby was taken sick and a neighbor had gone to hunt up War Bonnet. The father refused to allow me to treat the child, saying only War Bonnet should give medicine. I said the baby must be taken to the hospital.

“No,” said Pretty Boy. “The evil spirit lives there. It is death for babies to go there, for the evil spirit killed Johnny Ghost Dog. War Bonnet will make her well.” His confidence in the medicine man was sublime, his faith childlike.

Outside, mingled with the crashing of the band and the crack of rifles in the sham battle could be heard the voice of Seven Rabbits, the spokesman of the tribe—a sort of town crier—calling for War Bonnet. His voice, usually a drawling monotone, now rose and fell and the words were snapped out. The soft patter of moccasined feet, the flap of the tepee was brushed aside and War Bonnet tumbled in,—dignified in spite of his haste,—his medicine bag in his hands. This he cast on the ground; an Indian untied it and spread the various little bags in a circle, the sacred bird skull in the center with the turtle shell. And then I witnessed the practice of real Indian medicine as it has been practiced from time immemorial among the Redmen of the plains, and handed down from father to son generation after generation. As soon as he entered the tepee, War Bonnet flung himself on his knees before the child and taking its hanging head in his hands uttered a weird cry, half snarl, half grunt, and placing his lips to the child's mouth sucked from its throat mucus which he spat upon the ground. He tore off its clothing; he thumped its chest; he sucked at its throat and chest and the back of its neck, raising

great blotches of red flesh dotted full of little pin-point specks of blood. A convulsion seized the child still lying across its father's knees, and intoning a chant of most musical rhythm the medicine man dabbed powder on its breasts and abdomen and poured cold water over the child from head to foot.

"He'll kill the child," I said to the interpreter.

"If he dies War Bonnet will wake him up again," said the Indian simply. To the Indian mind everything is "him."

"Send her to the hospital," I pleaded.

"No, he will die there," was the reply, final and decisive.

Powders and ointments were rubbed on the child's body; her teeth were tightly clenched and a spoon was used to pry open the jaws. Chewing up a mouthful of what appeared to be dried leaves over which he had sprinkled one of his powders, War Bonnet blew the mass into the child's throat. Strange signs were made on the baby's chest with the bird's skull dipped into a paste, and then began the heating of the hands over the coals and the mixing of powders and grease, the rubbing, the chanting, the sucking at the throat, the blowing on the closed eyelids, and all the time the child lay dying across the lap of her father whose face, as expressionless as a piece of stone, showed no sign of sorrow or concern. One could not but marvel at the apparent disregard. In the end the child died and I sat on one side of the tepee with War Bonnet and witnessed the most impressive ceremony I have ever seen.

With its last fluttering breath the child's body slumped down into the hollow of its father's lap. Its mother had not returned and half a dozen squaws stood by silent and motionless, waiting for the end. As soon as it was apparent that death had entered the tepee, Pretty Boy looked up and thanked War Bonnet for what he had done. This is never overlooked by an Indian; he is appreciative and in this respect he is the superior of his civilized white brothers. After expressing his gratitude to the medicine man, Pretty Boy let his hair down and wept, hugging his dead child close to his breast and talking to it in the Sioux language, crooning and caressing. Sobs shook him and great tears splashed down on the little bronze body. Every one of the squaws rushed out into the camp and crying out that Mary Pretty Boy was dead, rounded up their own children and sent them skurrying to their tepees, for an evil spirit was about. Then

they all returned to Pretty Boy's tepee and throwing their blankets over their heads began to mourn. They howled and chanted and teetered up and down on their toes and wept in the death dance of the squaws. They kept this up for an hour or more until a lone, forlorn squaw crawled into the tepee like a whipped dog, her face sorrow drawn and tear stained; and creeping, creeping, creeping she came to the sorrow stricken Indian sitting there with his dead baby in his arms, and kissed her lost child. The squaws left one by one, followed by War Bonnet and his "white brother," and save for the sobbing cries of the mother returned to her desolate home, there was silence in the camp. I wondered how the medicine man would explain his failure to save the child and learned that he fell back on the all-powerful evil spirit, and that his reputation suffered not at all.

I had passed over as unworthy of investigation or even consideration, the stories I had heard of the miracle of raising the dead by medicine men and in fact had forgotten all about it, until one day I found myself suddenly famous among the Indians as a wonder worker fit to rank with the best of their medicine men. The squaw of Blue Horse tumbled over in a faint one afternoon and she was carried into her tepee. The Indians said she was dead. I applied restoratives and in a little while she was all right. Now, Blue Horse is a big civil chief in the Sioux Nation and his wife is of some consequence in Sioux society. So when the Indians saw her come back to life after apparent death, they gave me credit for having worked a miracle. Blue Horse himself believed it and circulated the story. This simple event explained to me the "marvelous resurrections" by medicine men.

One of the most important branches of civilized medicine is obstetrics; yet the Indians absolutely ignore labor cases. The squaws give birth to children as a matter of course. With them it is survival of the fittest. If everything is normal and there are no complications, the child is born and the mother immediately goes on with her work. She may lie about for a few hours. If there are complications the whole matter is treated philosophically. The mother dies and with her the child in the majority of cases, and it is Indian fate. This has been the practice for years and years and it may account for the ease with which Indian women bear children.

Nature weeds out those women who cannot give birth to offspring and science has no hand in the matter, except the tribe

is camped near an army post and the army surgeon happens to hear of a difficult labor. And, so far as I have been able to learn, only the primiparas are given assistance by the women of the tribe. Army surgeons have told me that it is a common practice for pregnant squaws, when the tribe is moving, to drop back when labor pains begin, go to the nearest water, give birth to the child, wash it in the creek or spring beside which she is squatted, jump into the water herself, and follow on after the tribe with the new-born strapped on her back.

There were two labor cases in the Indian camp at the Pan-American, one a Sioux, the other a Navajo. The latter squatted over a blanket, pulling on a rope suspended from the ridge pole of the tent, a sister Navajo leaning over her from behind and making downward pressure on the distended abdomen. The labor was simple and uncomplicated and the next morning the mother cooked breakfast for the family. The Sioux woman's baby was four days old before anyone outside of the tribe knew that there was a little stranger in the camp. This child was born at 5 o'clock in the morning and the mother was out at 6 o'clock hauling wood and building a fire.

In spite of his exalted position in the tribe an Indian medicine man is only human, and in some California tribes he very often separates his patient from some choice ornament or a sum of money by the performance of sleight-of-hand in effecting a cure of a malady.

George Wharton James, with whom I talked many times concerning the practices of Indian medicine men, told me several amusing incidents which had come under his own notice in his years of association with the different tribes of the West. The Ting-ai-vash, or medicine man of the Cahuillas, of Southern California, had a patient with a most troublesome cough which his herbs did not cure. He told the patient that he had a feather growing in his throat which made him cough, and he pretended to pull it from the man's mouth. Of course, it was sleight-of-hand and nothing else. So, too, was his remarkable cure of a case of rheumatism which was said to be due to the presence of a lizard in the man's belly. The Ting-ai-vash took a lizard into his mouth and sucked at the skin of the man's abdomen. Then he spat the lizard on the ground and told the man he was cured. This old fakir was a most accomplished sort of a man and nothing phased him. One other case was that of

a man with a swollen abdomen. The medicine man chanted a song and danced about the patient five or ten minutes and then into the song put the words to this effect: "Yes, my brother, your belly is big and you are suffering; it is a rope which has been put into you by the magic of a bad Wallapai; I will cure you, my brother, for \$5 and take the rope from you and you can keep it; it is the rope, my brother, the rope." He got the \$5 and the patient got a piece of rope.

It must not be inferred from this that all Indian medicine men depend on sleight-of-hand tricks or fakes. They all, more or less, play upon the credulity of their patients. Even old War Bonnet, I doubt not, has squirmed out of some tight places by bringing on the evil spirits which are so dreaded by the Indians. But the real medicine man, the typical product of the plains of the West, such, for instance, as War Bonnet himself, spends years in study and preparation; and in gathering his herbs and roots and fossils, he subjects himself to privation and suffering and solitude. When his medicine bag needs replenishing, the medicine man strips himself and naked goes forth into the foot hills and mountains. For seven days he neither eats, nor drinks, nor sleeps. Back and forth he wanders praying to the Great Spirit and searching for what he is in need of. When he returns to his tribe he is a sorry spectacle, gaunt, hollow-eyed and dirty.

Whatever we may say of Indian medicine as practised by the medicine man, it has one virtue, even if it does not always cure; it is honest. The medicine man believes in his own drugs and his greatest virtue is that he does not believe in absent treatment. He recognizes that disease is a fact and not a belief; he does not confine his practice to massaging and call himself the Indian equivalent of an osteopath, and although like the Christian Scientist he prays over his patient, he is advanced enough to give him medicine.

Indian medicine is interesting to the casual observer; it is fascinating to the favored ones who may be so fortunate as to be permitted to witness its practice. Realizing this, recent events in the politics of fake medicine have caused me to wonder what sort of an enabling act would now be before the legislature in this state, if the High Priest of the Amen Corner had fallen into the hands of old War Bonnet, instead of under the beneficent leg-pulling influence of a fair disciple of the diploma mill at Kirksville, Mo.

Progress in Materia Medica and Therapeutics

THE TREATMENT OF SCARLATINAL ANGINA

The use of carbolic acid injections in the diphtheroid angina of scarlet-fever has numerous advocates. Prof. Heubner, of Berlin, injects 8 min. of a 3-per-cent. solution into each tonsil, and continues the injections daily until the membrane is cast off or the temperature falls. In severe cases, a 5-per-cent. solution of carbolic acid is employed.

Dr. Polijewkoff¹ has obtained equally excellent results with the method. He begins the treatment as early as a positive diagnosis will permit. In moderately severe cases the injections have to be given for four to five days, in severe cases for seven to eight days. The urine should in the meantime be observed in order to detect any intoxication from the acid. Little children should not receive more than half a grain of carbolic acid at each sitting (into both tonsils); older children will tolerate double this quantity. The injections are administered by a specially constructed syringe, which obviates the danger of wounding the deeper structures. [We believe there are safer, more pleasant and more efficacious methods. We don't like the injections of such doses of carbolic acid in children.—EDITOR M. A.]

THE TREATMENT OF PERNICIOUS FORMS OF MALARIAL FEVER

Prof. Montoro de Francesco² writes on certain severe forms of malaria, occurring in Calabria, Italy. These forms of paludism are met with chiefly in summer and in autumn. Different kinds of hematozoa are regularly found in the blood of these patients, Laveran's plasmodium predominating over the others, and being apparently responsible for the severity and remittent character of the fever.

It is remarkable that these varieties of malaria show an obstinate resistance to the salts of quinine. The temperature will often rise after repeated small doses of the drug. It seems that Laveran's plasmodium is the most indifferent of all varieties towards quinine. In order to combat these severe types of malaria successfully, large doses of quinine, preferably the dihydrochlorate, should be administered hypodermically. At least $\frac{1}{2}$ dram. should be given at once, and then 16 grn. daily until the patient has been free from fever three or four

days. Finally, about 16 grn. of euquinine should be given internally every day for the period of about a month. General tonic treatment is, of course, a valuable adjuvant to this specific medication.

The author's preference for euquinine is founded on an extensive experience. He has learned to rely on the drug for preventing a recurrence of malarial fever. No unpleasant symptoms are likely to follow the administration of euquinine; no dyspepsia, cinchonism, etc. Its tastelessness makes it especially valuable also in pediatric practice. It is the only salt of quinine which may be safely given in large doses.

Altogether, it is a most efficient substitute for the older forms of the great specific remedy.

TREATMENT OF CHRONIC GLOSSITIS

Chronic glossitis, or inflammation of the tongue, is a very obstinate affection. Dr. M. L. Ravitch¹ recommends the use of a 15-per-cent. solution of silver nitrate, or a 5-per-cent. solution of chromic acid, simultaneously with the galvanic current. The method of procedure is as follows: After painting the affected tongue with either of the two solutions, the patient is told to hold the wet positive sponge electrode in one hand while the negative metal electrode is rubbed over the painted diseased areas for from ten to fifteen minutes. This produces an excess of saliva, which is caught by a large piece of absorbent cotton held to the mouth. The author claims very good results from this treatment and cites several illustrative cases.

THE TREATMENT OF EPITHELIOMA WITH ARSENIC PASTE

It has long been known that arsenic exerted a powerful influence upon epithelial tissue, and it is upon this principle that its use as a therapeutic measure in epithelial cancer is founded. Morbid growths having less vitality than normal tissue, the peculiar value of this caustic must lie in its power to quickly destroy the epithelial growth when the application is made in a sufficiently concentrated form to suit the individual, as shown by the small amount of inflammatory reaction accompanying.

Owing to the ever-present danger of a possibility of systemic absorption taking place, it becomes an additional reason for

¹ *Therap. der Gegenwart*, 1902, No. 8.

² *Klin.-therap. Woch.*, 1902, Nos. 23-25.

¹ *Jour. Amer. Med. Assoc.*, XXXVIII, No. 22.

using the caustic in the greatest concentration possible to obtain simply the local effect.

Dr. Frederic Griffith¹ gives the following formula:

Acidi Arsenosi 1 dram
Pulv. Acaciæ 1 oz.
Cannabis Indicæ 1 dram

After removing any crusts by gently washing with a solution of hydrogen dioxide, full strength or diluted, according to the amount of pain caused (if present over the area to which the application is to be made), the paste is spread on a piece of lint to the thickness of $\frac{1}{8}$ inch. To give it the proper consistence it is mixed up with a little water in a porcelain dish by the aid of a glass rod. To prevent running beyond the desired limit, care must be taken to have the wound mopped dry before applying.

The paste must be left on for a period of eighteen or twenty-four hours, when the residue may be washed away and the application continued over a new area. A little petrolatum may be spread along the edges of the growth to protect uninvaded skin. Morphine in suitable dose may be used to assist in combating the pain caused by the application of the caustic.

The general bodily condition must receive attention, particularly must the digestive tract be kept functionally active during the treatment.

DIONIN IN OPHTHALMOLOGY

This drug, which has recently been added to the ophthalmologic armamentarium, is the hydrochlorate of ethyl morphine. Dr. Bruno² thus sums up the symptoms characteristic of the dionin reaction: Vaso-dilatation and vascular injection; lymphatic extravasation and edema; glandular excitation and lacrimation; sensation of burning, followed by analgesia. These effects are produced in their entirety solely in the diseased eye and in the healthy eye of cardiac subjects; the intensity of the reaction varying in individual cases. The favorable effects noted in a variety of ocular affections may, in the author's opinion, be attributed to its trophic influence. Perhaps its greatest value lies in its analgesic property, though it is in no sense anesthetic. The author denies any direct antiseptic influence of the drug, the opinion of other observers to the contrary notwithstanding, and attributes its mitigation of infectious processes to the increased lacrimation which it induces. Dionin may be used in solution or

in powder form, the analgesic dose being two drops of a 0.5- to 1-per-cent. solution, repeated every two or three hours. In the treatment of affections in which greater reaction is desired a solution of from 5- to 6-per-cent. is advised. The drug loses its effect in time, when constantly employed, therefore its application should be intermittent; or where its continued use is deemed necessary, its influence may be somewhat prolonged by application of warm compresses following its instillation. The writer has found it valuable in the following conditions: Superficial foreign bodies upon the cornea, the powder cleansing the cornea and preventing septic complications. In parenchymatous keratitis and granular pannus strong solutions should be used at first, the powder being used later on, and applications should be intermittent. In phlyctenular affections, ulcers, iritis, iridochoroiditis, and infected penetrating wounds, strong solutions or powder followed by instillation of atropine are to be used from time to time. This treatment should be supplemented by frequent analgesic instillations of weak dionin solutions. In glaucoma strong solutions are recommended, associated with eserine and pilocarpine, dionin acting as an adjuvant to these drugs. Dionin, while having no direct effect upon the pupil, is a useful auxiliary to myotics and mydriatics, facilitating their absorption.

Dr. Bordeaux³ has studied the action of dionin on animals and in man, confining his researches to the eye. Introduced into the healthy eye in powder-form or in solution (5-per-cent.), dionin causes edema of the conjunctiva, accompanied by vascular engorgement and tears. This begins a few minutes after the application and lasts up to twenty-four hours. The edema is more marked in persons suffering from uncompensated heart lesions. The reaction is more intense when dionin is introduced into the diseased eye. Another feature of the drug is its strong analgesic action, which lasts three to four hours, and follows the use of solutions as weak as 1-per-cent. The author's conclusions are that dionin is indicated in the following ocular affections: (1) Parenchymatous keratitis, which heals more rapidly under the influence of the new remedy and ends in a clearing up of the corneal opacities. (2) In phlyctenular affections and ulcerations of all kinds the drug affords *prompt* relief from pain and photophobia, while lacking any marked influence over the process itself. (3) In diseases of the uveal tract and in glau-

¹ *Med. World*, July, 1902.

² *Jour. des sci. méd. de Lille*, May 24, 31, '02. *Med. News*.

³ *Klin.-therap. Woch.*, ix, No. 29.

coma the action of dionin is analgesic and apparently to some extent specific, though not sufficiently so to supersede atropine.

For No. 1 and for No. 2, solutions of 5-per-cent. strength are recommended, while 1-per-cent. is sufficient for the affections mentioned under No. 3.

Dr. Surow¹ has experimented with dionin in various diseases of the eye: in keratitis, corneal ulcers, iritis, glaucoma, etc. Solutions of 5- to 11-per-cent. strength of dionin were employed when decisive action was desired; otherwise 1-per-cent. solutions sufficed, preceded by $\frac{1}{4}$ -per-cent. atropine solution. Finally, dionin was employed in ointment form, 3- to 5-per-cent. strength, with ordinary mercurial ointment as a base. The author arrives at the following conclusions: The curative power of dionin in eye diseases is very valuable, especially in corneal ulcerations. It is an important adjunct to atropine in the management of iritis. It possesses great anesthetic and analgesic virtues, which make it very serviceable in painful affections like glaucoma.

ATROPINE IN LEAD COLIC

The startling success of atropine in certain forms of intestinal obstruction has been widely discussed of late years. Dr. Adolph Weber² has employed atropine in several cases of colic due to lead-intoxication, and submits a favorable report of his results. At first he used the extract of belladonna in doses of $\frac{1}{4}$ -grn., frequently repeated, but later he has given preference to the alkaloid in doses of $\frac{1}{60}$ - to $\frac{1}{20}$ -grn. Prompt relief generally follows with the exception of cases in which opium has been previously administered. In such cases even enormous quantities of atropine remain ineffectual, being neutralized by the opium.

No untoward effects have been observed in the author's cases. The atropine was administered hypodermically.

QUINIC ACID IN GOUT

It has been noted that quinic acid, when taken internally, reduces the amount of excreted uric acid, and this observation underlies the therapeutic experiments with this acid in gout. Certain fruits, for instance, strawberries, contain quinic acid and are empirically known to influence gout favorably. Experiments have been made with quinic acid and its derivative compounds in order to ascertain their real therapeutic value. Some authors have reported favor-

ably on sidonal, a combination of piperazine with quinic acid.

Drs. Huber and Lichtenstein¹ have conducted a series of clinical tests, using "new-sidonal," which is quinic acid anhydride.

The remedy was administered to gouty patients in doses of $2\frac{1}{2}$ drams daily, with uniformly good effect. The pain was relieved and soon disappeared entirely. In one case the pain promptly returned on discontinuing the remedy, only to yield again to its administration, thus conclusively establishing a causal relationship. An examination of the urine during the treatment showed a notable diminution in the excreted amount of uric acid. Possibly the beneficial action of the remedy is due to this circumstance; on the other hand, certain authors believe that quinic acid has anesthetic and antineuralgic virtues.

XEROFORM

Dr. Paul von Bruns², professor of surgery at Tübingen University, recommends, especially for the treatment of bullet wounds, a salve of xeroform kept in zinc tubes, in which it will not decompose. This salve is to be of the following composition:

| | |
|----------------------|----------------------|
| Xeroform..... | $2\frac{1}{2}$ drams |
| Kaolin..... | 13 drams |
| Mucilage Acacia..... | 5 drams |
| Glycerin..... | 5 drams |

Make soft paste in collapsible tubes.

The author condemns impermeable dressings, which prevent desiccation of the wound, and recommends xeroform because of the disadvantages of iodoform and salicylic powders.

Dr. Herman Küttner,³ assistant at the Surgical Clinic at Tübingen, who took part in the South African War, states the following:

"The first dressing decides the fate of the wounded; this old maxim of Volkmann will never lose its significance. How first aid on the battlefield is to be applied, is not the subject of this paper; I will rather confine myself to a few salient points in the treatment of bullet wounds of the extremities. For this purpose I recommend the Bruns pastes. Especially useful is the xeroform salve, for it will not decompose in a collapsible tube. This container has the advantage that every ambulance attendant can carry it in his pocket and have it ready to express the salve upon the wound. If the ointment is then covered with gauze or cotton, a pervious and antiseptic dressing which answers every requirement has been prepared."

¹ *Woch. für Therap. d. Aug.*, v, No. 33.
Münch. med. Woch., XLIX, NO. 17.

² *Berl. klin. Woch.*, XXXIX., No. 28.

³ *Münch. med. Woch.*, April 15, 1902.

⁴ *Arztl. Kriegstz.*, 1902, p. 174.

OREXINE IN THE VOMITING OF PREGNANCY

Dr. Ludwig Pick¹ states that by "hyperemesis gravidarum" is meant not the almost physiological vomiting that is so frequently observed early in pregnancy, and that ceases of its own accord about the fourth month, but that unappeasable vomiting which extends into the second half of pregnancy or even to full term. This is a serious complication, which occasionally endangers the woman's life, and which has often been made the ground for inducing premature labor.

In his monograph Pick reports *in extenso* twenty-two such cases, all observed in the University clinic at Vienna under Prof. Schauta. All the cases were taken into the hospital, and strict rest in bed and a milk diet were enjoined. In some of the lighter cases, following the advice of Prof. Frommel, 5 grn. orexine were administered three times daily. However we may explain the action of this drug, the results were exceedingly satisfactory. In one very severe and obstinate case the drug was given per rectum. After three days the vomiting ceased; four days later, in spite of the cessation of treatment, the patient could again take solid food; a week later she was discharged cured.

LOBAR PNEUMONIA IN INFANTS

Dr. Wm. F. Cheney² states that lobar pneumonia in infants is a much more frequent disease than is usually believed by the average physician. The condition is frequently overlooked or diagnosed wrongly. This would seldom happen if sufficient time were devoted to a careful investigation of the meaning of symptoms, and to repeated examinations of the chest. If this is done, no one can ever mistake lobar pneumonia for the effects of teething or of worms. It is only the failure to use eyes and ears and reasoning power that permits such errors to be made. Sometimes the onset with convulsion or with vomiting persuades the physician to look no further than the digestive tract for the cause; but when the inevitable calomel that follows does not remove the fever or relieve the symptoms in any way, almost any man is ready to look further, and, as a rule, he has only to look far enough and he will find. The disease is easily distinguished from the other common diseases of the lungs in infancy: acute bronchitis and broncho-pneumonia. The sudden onset, high, persistent fever, infrequent, suppressed cough, and localized physical signs of lobar pneumonia are in

marked contrast to the more gradual beginning, the moderate, irregular fever, constant, paroxysmal and violent cough, and the generally diffused physical signs throughout both lungs, that characterize broncho-pneumonia or acute bronchitis in infants. Almost any disease of infancy that causes high fever may give rise to nervous symptoms that simulate those of meningitis and not infrequently these symptoms are the most prominent ones in lobar pneumonia and throw the diagnostician off the track. Thus the case may be misunderstood for several days, until at last the termination by crisis suddenly clears up the error. In those cases in which, in spite of repeated search, no physical signs of disease in the lungs can be found for the first few days, one must depend entirely upon the symptoms and can only suspect the true nature of the ailment. Such cases are usually those of a central pneumonia, and the signs become manifest only as the consolidation extends to the surface of the lung.

The prognosis is almost invariably a good one, if the baby is given a fair chance for its life and does not become the object of too much professional zeal. In the first two years of life the heart muscle is still sound, and its valves intact; the kidney epithelium has not yet been forced habitually to excrete more poisons than naturally fall to its task, and the digestive organs have not yet been persistently abused. Nature is, therefore, in condition to make a good fight, and lobar pneumonia is not such a serious disease as in adult life. Most patients under two years recover; whereas most patients past fifty years die.

The treatment is simple, for the disease is a self-limited one, and comes to an end of its own accord. The main object is to maintain the strength until the affection runs its course. The food must be carefully and regularly administered. If the infant is nursed at the breast, let the breast continue to be used; if on the bottle, let the same food as previously given be continued at regular intervals, but diluted or peptonized, if, on account of the high temperature, it is not well digested. For the fever, no antipyretic drugs should be used; cold sponging or bathing of the body is far more efficacious and less depressing. For cough, if it is troublesome, or for restlessness and insomnia, Dover's powder is the most useful medicine; and frequently this is the only medicine that the author's little patients receive during an attack of lobar pneumonia. For symptoms of prostration, such as a pulse above 150 and tendency to stupor, brandy should be given regularly, in doses

¹Interstate Med. Jour., July, 1902.

²Amer. Med., July 26, 1902.

of 10 to 30 drops every two hours, well diluted; strychnine, in doses of $\frac{1}{400}$ to $\frac{1}{200}$ grn., according to age, every six or four hours; atropine in doses of $\frac{1}{2000}$ to $\frac{1}{700}$ grn. at the same intervals. For the collapse that is apt to occur at crisis, the best treatment is the hot mustard bath, followed by vigorous rubbing of the surface of the body. In general it is important to remember the motto of Jacobi—*nil nocere*—do no harm; for occasionally infants suffer more from too vigorous medication than they do from the disease.

THE ANTISEPTIC TREATMENT OF RECTAL AND GENITAL CHANCROID

Dr. Sinclair Tousey¹ recommends the following method. He found it more efficient than the methods in common use, practically painless, the ulcer becoming innocuous more quickly and without loss of substance, and healing more promptly, and cases of secondary lymphatic abscess being almost unknown.

A saturated solution of potassium permanganate is freely applied to the ulcer by means of a cotton swab. This does not injure the skin or mucous membrane if it spreads beyond the ulcer, and is not a caustic. It turns everything black, and after about a minute is washed off and the surface decolorized by peroxide of hydrogen. The full strength of the latter is used for cutaneous surfaces, but it is diluted about three times for mucous surfaces. Then for cutaneous surfaces a dressing is applied which is kept wet with

| | |
|---------------------------|-----------|
| Alum..... | 25 grn. |
| Lead Acetate..... | 2 drams |
| Water enough to make..... | 6 fl. oz. |

The white precipitate of lead sulphate is not removed, but is well shaken before applying. This answers very well for chancroid of the anus and external genitalia, and does not irritate the surfaces of those parts. For intra-rectal or intra-vaginal chancroid, after the application of the permanganate and the peroxide, the surface should be washed off with water or any bland solution, the speculum withdrawn, and a suppository of cacao butter with 10 grn. of boric acid introduced. Daily applications for four or five days generally remove the virulence of the ulcer and inaugurate the healing process. After this takes place the permanganate and the peroxide may be discontinued; exposed surfaces are dressed with boric-acid ointment, a dram of boric acid to an ounce of petrolatum spread on gauze; for the vagina and rectum the suppositories are continued.

The author has employed this antiseptic method of treating chancroid in scores of cases in hospital and private practice, and has come to regard the treatment by caustics as unnecessarily painful and comparatively ineffectual. As an example of the efficacy of these particular antiseptics, he cites the case of a man who came to his office from a very successful general practitioner who had been applying "black wash" to a chancroid of the size of a twenty-five-cent piece on the external surface of the prepuce. The penis was enormously swollen and very painful and was getting steadily worse; it had been under treatment for ten days. When he came to the author it was with the intention of going into the hospital. He told him that would not be necessary and prescribed a wet dressing of "acetate of alumina" and touched the surface with potassium permanganate and peroxide of hydrogen. This treatment was repeated daily, and on the fifth day the ulcer cleaned up and began to heal. The pain and swelling disappeared almost immediately.

Briefly, a chancroid is a severely infected wound and requires something more than surgical cleanliness; and first-class antiseptics, such as above described, has been found to give better results than cauterization.

ADDISON'S DISEASE CURED BY SUPRARENAL GLAND

Dr. W. E. Deeks¹ reports the following interesting case: A woman of thirty-two years was admitted to the hospital April 3, complaining of pain in the stomach, back and head, vomiting, diarrhea, weakness and loss of appetite.

Her illness began in November, 1901, with weakness, loss of appetite and diarrhea, but she was able to continue about her usual household duties until January, 1902, when she was confined to bed. At this time the most aggravating symptoms were the diarrhea, pain in the back and head, and insomnia. About this time also she noticed her skin becoming abnormally brown. These symptoms gradually became worse up to her admission to the hospital.

Her previous history is negative, except for an attack of malaria seven years ago. She is married and has six healthy children. Her father is alive, aged eighty years; her mother, three sisters, and one brother died of consumption. Two brothers, aged twenty-five and thirty years, are alive and well.

On her admission, April 3, the following condition was noted. Pulse 110, weak, small and compressible; respirations, 24;

¹ N. Y. Med. Jour., Aug. 9, 1902.

¹ Mont. Med. Jour., July, 1902.

temperature, 102° F. She was exceedingly weak and suffered from breathlessness, dizziness, headache, and palpitation. She manifested great lassitude and loss of physical and mental energy. It appeared a great effort to reply to ordinary questions, her speech was slow and incoherent. The most striking feature about her condition was the pigmentation, which was universal, but deeper on those parts where pigment normally is present, on the exposed parts where the clothing bore most heavily, as the neck, hips, shoulders. Pigment spots were also present on the mucous membranes of the lips and cheeks. Her extremities were cold and clammy, and she fainted on the slightest exertion. Anorexia, nausea, and vomiting were present. The stools were liquid in character and from two to as many as nine daily. The tongue was dry, coated, and very pale. Dull, aching pains were referred to the epigastric, hypochondriac, and lumbar regions. Examination of the lungs revealed, in the right apex and along the antero-internal edge of the lung, slight dulness on percussion, with a few dry crackling râles. There was slight cough and very little sputum in which no bacilli were found.

The blood examination showed 32 per cent. of hemoglobin, 2,100,000 erythrocytes, with marked poikilocytosis and a relative leucocytosis. The average daily amount of urine was 30 oz., containing 0.2 per cent. of albumin and 6½ grn. of urea to the ounce. No casts were present.

The patient was put on liquid diet and 1/30 grn. of strychnine was given hypodermically three times daily, and bismuth with cocaine was given to allay vomiting, but without result. Other methods brought no improvement, but on the contrary a gradual sinking of the patient's vitality. On consultation it was decided to try suprarenal gland, 3 grn. three times daily after meals. Improvement began immediately and within three days the vomiting and diarrhea began to lessen, and the patient to gain strength and to feel better. From this on the patient steadily improved and in two weeks from the beginning of the suprarenal treatment she was feeling very comfortable and enjoying her meals. On May 29 the blood was again examined and gave 40 per cent. of hemoglobin, 3,850,000 red cells, and a very great improvement in their appearance. The urine was also free from albumin.

On May 22 she sat up for two hours and on the 25th most of the day. On the 31st she was able to leave the hospital feeling very well and with the pigmentation fast disappearing. The suprarenal was contin-

ued at home and she reported at the hospital at intervals of two weeks, when she left for the country feeling well.

ICHTHARGAN AN EFFICIENT REMEDY IN OPHTHALMOLOGY

The most salient feature of modern therapeutic research is the attempt to furnish substitutes for our specific and otherwise indispensable older remedies; substitutes which should be free from the toxic or unpleasant by-effects of the old drugs, while possessing all their curative virtues. Thus we see the bromide group being displaced by bromipin, the salicylates by aspirin, the iodides by iodipin, quinine by euquinine and saloquinine, morphine by heroin and di-onin, etc.

Naturally enough, an important remedy like silver nitrate could not escape from the general tendency, and accordingly, we find organic silver compounds offered as successors to the time-honored caustic. Among these, ichthargan is the most noteworthy. While silver nitrate is superficial in its action, being limited by the coagulating albumen of the tissues, the new preparation possesses at least equal germicidal and alterative virtues without the caustic by-effect.

Ichthargan, a combination of ichthyol and silver, contains 30 per cent. of the latter, and is a brown powder, soluble in water. The preparation unites the astringent virtues of silver with the antiphlogistic qualities of ichthyol. It has given excellent results in the treatment of gonorrhea, and has found some employment in dermatology.

Introduced into ophthalmology, ichthargan has also been found of value. Dr. E. Guttmann¹ reports the results of his numerous experiments and offers the following conclusions: The remedy is efficient in acute conjunctivitis, affording prompt relief of the swelling and injection. Acute catarrhal conjunctivitis in children was found to be especially amenable to ichthargan treatment. The results in cases of blennorrhea neonatorum are not sufficiently clear, and the author postpones final judgment. Very good effects were seen in dacryocystoblennorrhea, but the greatest success was achieved by ichthargan in the secreting forms of trachoma. In the treatment of pannus the new remedy is of the greatest utility. The drug was employed in solutions of varying strength, from ½ to 2 or even 5 per cent. The application by means of a dropper causes no pain, only slight burning. Neutralization is unnecessary.

¹ *Woch. Therap. des Auges* v, No. 36.

THE TREATMENT OF CERTAIN SKIN DISEASES

Dr. Leredde¹ recommends the "exfoliative method" of dealing with such dermatoses as acne, the lichens, prosopemosis, etc. The method aims at creating an inflammatory reaction of the epidermis and the mucous layer, with subsequent desquamation, which results in carrying off the pathological products.

The agents employed for this purpose are strong alkaline soaps, resorcin, salicylic acid, and beta-naphthol:

Here are some combinations:

| | |
|---------------------------|-----------|
| Benzoinated Lard..... | 1 oz. |
| Zinc Oxide..... | 2½ drams |
| Resorcin..... | 10 drams |
| Petrolatum..... | 6 drams |
| Green Soap..... | 6 drams |
| Precipitated Sulphur..... | 12½ drams |
| Beta-Naphthol..... | 2½ drams |
| Petrolatum..... | 6 drams |
| Green Soap..... | 6 drams |
| Starch..... | 6 drams |
| Sulphur..... | 6 drams |
| Resorcin..... | 2½ drams |
| Salicylic Acid..... | 1¼ drams |
| Beta-Naphthol..... | 1¼ drams |

Or, in the form of a lotion:

| | |
|-----------------------------|----------|
| Tincture of Soft Soap (20%) | 10 drams |
| Resorcin..... | 1 dram |
| Precipitated Sulphur..... | 2½ drams |

The resorcin paste is the most reliable. It is applied to the skin once a week, after washing the area with soap and water. The paste is allowed to remain in place for fifteen to twenty-five minutes, always making the first séance short, in order to gauge the reactive powers of the individual skin. The resorcin-lotion permits of more frequent employment. It may be dabbed on daily for three successive days.

The resulting inflammatory reaction may be tempered by means of cooling salves, such as:

| | |
|--------------------------|----------|
| Zinc Oxide, | |
| Petrolatum, of each..... | 2½ drams |
| Wool-fat | ½ oz. |

The chief indication for the exfoliative method is furnished by the various forms of acne. Good results were furthermore obtained in lichen and some other skin affections.

THE PERSULPHATES

The alkaline persulphates, when heated in aqueous solutions, liberate oxygen, and this property accounts for their antiseptic action. A ½-per-cent. solution of sodium persulphate checks the development of most micro-organisms, while a 5-per-cent. solution kills them.

Prof. H. Kionka² reviews the reports on

the bactericidal value of the persulphates in medicine. They have been employed externally as dressings, and internally. Solutions of 3 to 5 per cent. of sodium persulphate have been used in wet dressings for lupus, callous ulcers, etc.

Internally, sodium persulphate has been given with a view of stimulating the appetite and digestion in tuberculosis, anemia, neurasthenia, etc. The dose was 1½ grn. twice daily, well diluted, one and a half hours before meals.

| | |
|-------------------------|--------|
| Sodium Persulphate..... | ½ dram |
| Distilled Water..... | 10 oz. |

One tablespoonful in a glass of water (one teaspoonful for children).

The results obtained were not unsatisfactory. French authors seem to credit the persulphates with considerable therapeutic efficiency, and a French firm has put an aqueous solution of sodium persulphate (1½-per-cent. strength) on the market, under the name of "*persodine*." The dose of this preparation is one teaspoonful several times daily, in water.

The persulphates have also been utilized in testing the urine for albumen and indican. A 10-per-cent. aqueous solution of ammonium persulphate, when brought in contact with the urine in a test-tube, forms in the presence of albumen a turbid, grayish zone at the plane of contact.

To test for indican, the urine is added to one-half its volume of 25-per-cent. hydrochloric acid, and a crystal of ammonium persulphate dropped into the tube. The whole is now mixed with chloroform, which in the presence of indican assumes a blue color.

BROMIPIN IN EPILEPSY AND OTHER NERVOUS CONDITIONS

Quinine, the iodides, the bromides, the salicylates, and many other specific drugs are being replaced by new compounds which are alleged to possess at least equal therapeutic virtues, while being free from undesirable collateral effects. Notable among these substitutes is bromipin, a combination of bromine with sesame oil. Bromipin is not absorbed in the stomach, and does not derange the digestion. Neither is acne a by-effect of the drug. Taken internally, it is absorbed in the intestines and deposited (largely unchanged) in the tissues. Here a slow and gradual oxidation takes place, and thus a prolonged supply of bromine to the diseased organs is insured.

The indications for the employment of bromipin are identical with those of alkaline bromides, epilepsy being the most frequent disease in which it is administered.

¹ *Rev. de Therap.*, LXIX, No. 10.

² *Therap. der Gegenwart*, 1902, No. 6.

Dr. Baucke¹ gives a good review of the recent literature on the subject. Authors are quite unanimous in their favorable accounts of the drug's efficiency. A notable reduction in the number and intensity of epileptic seizures could generally be obtained, after the alkaline bromides had failed completely.

Equally good results have been seen from the use of bromipin in other nervous conditions: neurasthenia, hysteria, chorea minor, etc.

For internal use the 10-per-cent. preparation is prescribed in doses of one teaspoonful up to one tablespoonful three or four times daily, to be taken in warm milk or with peppermint water.

For hypodermic medication, a 33⅓-per-cent. preparation is on the market. The same may be given per rectum, or in capsules, by the mouth, whenever very large doses of bromine are indicated.

[The hypodermic employment of bromipin is hardly resorted to in this country.—Ed. M. A.]

TRACHEAL INJECTIONS IN PULMONARY DISEASES

Our treatment of bronchial and pulmonary affections, says Dr. L. D. Rockwell,² is in many respects very deficient and lags noticeably behind the progress in other branches of medical science. We are still groping in therapeutic darkness when confronted with the obstinate symptoms of pulmonary tuberculosis or chronic bronchitis.

Expectorants of all varieties and the inevitable opiates are still our final resort.

It is rational, in view of this, to attempt direct medication by introducing germicidal and aromatic substances into the diseased lungs, and the tracheal injection therefore deserves our fullest attention. Recent experiments have convinced the author that the old fear of invading the larynx is quite ill founded.

The author has tried the method of intra-tracheal injections as advocated by Mendel and has obtained satisfactory results. The medicines used are volatile substances of strongly germicidal properties, and are held in solution by sterile olive oil, which spreads itself over the tracheal and bronchial membrane. The solution is absorbed and carried to the deeper tissues. It finally reaches the circulation, and is eliminated through the breath and the urine.

Solutions of eucalyptus, oil of thyme, oil of cassia, iodoform, etc., have been used by the author. They are introduced by means of a suitable syringe. Distressing symp-

toms like cough and dyspnea have been often and promptly relieved by this method.

COPPER CITRATE IN TRACHOMA

Encouraged by the excellent results of using silver citrate in place of silver nitrate, Dr. F. v. Arlt¹ has tried to substitute the citrate for the sulphate of copper in the treatment of trachoma. Copper citrate is a green, very light powder, containing about 35 per cent. of copper. It is employed in the form of an ointment (5- to 10-per-cent. strength), which may be put up in tubes and expressed drop by drop into the eye. The lids are then closed and massaged for half a minute. The pain experienced is very slight. The procedure is repeated two to three times daily. The eyes may be washed an hour after the application.

This treatment can be carried out by the patients themselves. The effect on pannus of trachomatous origin is startling. In seven to twelve days the opacities disappear. The conjunctival alterations also show a marked improvement after one or two weeks' treatment, the secretion becoming less profuse and the granules or follicles diminishing in size. No scar-formation takes place. In severe cases this treatment may be reinforced by applications of silver citrate.

DORMIOL IN EPILEPSY

In combating dangerous forms of the *status epilepticus*, chief reliance has been so far placed on chloral and amylene hydrate. Both remedies are efficacious, but chloral is often very injurious, especially in patients afflicted with cardiac complications. Amylene hydrate is therefore to be preferred to chloral.

Another remedy which is efficient and free from toxicity is dormiol, a combination of the two chemicals just mentioned.

Dr. J. Hoppe² has experimented with dormiol in a series of epileptic patients and has never seen any untoward effects. The desired sedative action followed promptly. The drug was administered per rectum, two to three tablespoonfuls of a solution (5 drams of the 50-per-cent. solution of dormiol to 5 oz. water) being injected with about a pint of luke-warm water. No local irritation ever took place.

The chief indication for the use of dormiol is a prolonged series of frequent epileptic seizures, when rest is imperatively necessary for the exhausted system. The drug is hardly suitable for the specific treatment of epilepsy.

¹ *Psychiat. Neurol. Woch.*, IV, No. 5.

² *N. Y. Med. Jour.*, LXXV, No. 21.

¹ *Klin.-therap. Woch.*, IX, No. 15.

² *Münch. med. Woch.*, XLIX, No. 17.

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EDITOR'S NOTES

Danger in Absolute Prognoses

IN a former editorial, entitled "Be Guarded in Your Prognoses," we called attention to the difficulties of a positive diagnosis and prognosis in many cases. It is consoling to see that these difficulties are not peculiar to the average practitioner only, but that even the pillars of the profession encounter them once in a while. Speaking on the subject of diagnosis and prognosis in true angina and in pseudo-angina, Professor Osler states:

"One must be a professional Ulysses in craft and wisdom not sometimes to err in estimating the nature of an attack of severe heart-pain. There is no group of cases so calculated to keep one in a condition of wholesome humility. When you jostle against a hale, vigorous specimen of humanity, who claps you on the back and says, 'The deuce take you doctors! I have scarcely yet gotten over my fright,' you would like to forget that five years before you had almost signed his death-warrant in a very positive diagnosis of angina pectoris vera. On the other hand, Mr. X. has left you with the full assurance that his cardiac pains are due to overwork or tobacco, and you have comforted his wife and lifted a weight of sorrow from both by your most favorable prognosis. With what sort of appetite can you eat your breakfast when, a week later, you read in the morning paper the announcement of his sudden death in the railway station? Or to take another aspect,

poor Mrs. Doe has gone softly all these years in the bitterness of her soul since you took that grave view of her vaso-motor or hysteric angina."

And so, let the average practitioner be careful in his diagnoses and prognoses, but let him not feel so very dejected when he has made an error. The big ones make them, too, though less frequently.

* * *

Temperature and Infant Mortality

UNDER the above title the New York Times, which *à propos*, is remarkably well informed on medical matters, recently published an editorial full of suggestive points. A careful perusal of it will show that our ideas as to the direct relationship between the height of the temperature and the death-rate from diarrheal diseases are probably in need of revision. We, personally, have long maintained that in the causation of any disease, humidity is of much higher importance than temperature *per se*; but, still, this contention is in need of scientific and statistical proof.

The editorial in question states: That hasty and ill-considered generalizations are apt to be misleading is illustrated by a study of the recent vital statistics of New York, so far as these relate to infant mortality. During the hottest weather of a normal summer much sympathy is felt and expressed for the poor babies of the tenements, who must necessarily suffer intensely and "die like sheep" in the blistering days and scarcely more tolerable nights of the hot waves. We have heard very little of this during the present season, it doubtless having been assumed that as we are experiencing an exceptionally cool and agreeable summer the infants are thriving and the mortality among them is at a minimum. The difference between this summer and last is shown by the fact that whereas last summer there were 1,267 deaths from sunstroke and heat prostration in New York, the record thus far this year is 31 to date. However, for the quarter ended with June 30, the total number of deaths (17,173) exceeded that of the corresponding quarter of the year 1901 by 558, this increase being due almost entirely to an increased number of deaths of children under five years of age. The greatest increase occurred in deaths from diarrheal diseases, there being 254 more deaths from these causes in children under two years of age. There were 120 more deaths from measles and 195 more deaths from the acute respiratory diseases than in the corresponding quarter of last year; in addition an increase was reported in the

number of deaths from whooping-cough, cancer, Bright's disease, nephritis, and, curiously, suicide. The total death rate of New York from June 1 to the present time is a shade lower than last year, but not enough lower to warrant any generalizations. Better street cleaning may account for it, or any one of a dozen causes.

In an effort to account for the coincidence of low temperature and high infant mortality the experts of the Health Department have studied the local meteorology very carefully, and one of the staff has prepared diagrams in which the temperature and humidity have been plotted with the death rate. Thus far the curves show no relation to one another which would warrant a generalization of any sort. . . .

The June figures are equally confusing. For its hottest day, the 3d, with a mean temperature of 78.6 and 72 per cent. of humidity, there were only 3 deaths in this class. On one of its coolest days, the 29th, with a mean temperature of 60.6, there were 12 deaths, concluding a period of twelve consecutive days during which the mean average was 65.5. On the hottest day thus far in August, the 2d, there were 18 deaths in this class; on one of its coolest, the 3d, there were 11, and the two days of heaviest infant mortality were relatively cool days with normal humidity.

It looks as if we should have to revise our opinions as to the assumed relation between summer discomfort and high infant mortality from the typical diseases of the season. English observations have pointed to the conclusion that when the temperature of the earth at a depth of 4 feet reaches 56° F. there is an immediate increase in the death rate from diarrheal diseases. This temperature below ground probably corresponds to about an average of 70° F. above ground, and if these observations are correct it follows that we do not need a summer even as warm as that of the current year to produce the ground temperature favoring the development of the malevolent microbes which are presumably the agents of diarrheal propagation.

* * *

A Record Case of Prolonged Lactation

DRS. H. R. CLARKE and R. S. NICHOL, of Manchester, England, report the following unique case: They were consulted in reference to a little girl whose troubles were bronchitis and constipation. Inquiry elicited the fact that she still nursed at the breast, although she was five years and two months old. The mother was forty-seven years of age, well nourished, but somewhat sallow.

She had been married twenty-four years and had eight children and one miscarriage. The youngest child, the one in question, nursed three or four times every day; for the previous two years, however, she had had some additional food. The mother commenced to menstruate at sixteen, but during the entire last period of lactation, of over five years, she menstruated once only. The breasts were full and milk could be readily squeezed from them. An examination showed that the milk was nearly as rich in fat as a sample of fresh cow's milk, with which it was compared. The child was weaned, a suitable diet being substituted, and it rapidly became well. Seven days after weaning the child the secretion of milk ceased.

This is a very interesting case from a physiological point of view. For over five years a demand was made on the breasts for milk, and they supplied it; the demand was stopped and the supply immediately ceased. The case also well illustrates the vicarious relationship existing between menstruation and lactation.

* *

An Explanation

PROF. R. W. WILCOX requests us to state—and we grant his request with pleasure—that in his address read before the American Therapeutic Society and reprinted in our July issue (see page 272), the explanatory trade-names "eucaine," "iodipin," and "urotropin" or "formin," given in brackets after the scientific names, were inserted by us and did not occur in his address. He asks us to make the explanation in view of the fact that the rules of the American Therapeutic Society prohibit the use of trade-names. We might also add that the word "speculative" occurring in the note appended by us to the address was not used in any disparaging sense: it was meant to convey the idea of non-immediate practical applicability.

* *

Nothing New, Etc.

IN these columns we have shown a number of times that many remedies and methods now considered new and modern were known and used hundreds of years ago. Dr. Charles Francis now calls attention to the fact that saline injections in cholera were used during Sir James Paget's apprenticeship. So, here is another.

* *

WHEN facts are numerous and unquestionable and unequivocal in their significance, theory must follow them as best it may, keeping time with their step and not going before them.—*Holmes*.

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

Formulas for Antiseptic Powder and for Non-Saccharine Solution of the Hypophosphites

Dr. Wm. F. T. writes: Will you kindly oblige me with a formula for a soluble powder of the following combination, so that 1 dram to a pint of water will be a sufficiently strong solution to use as an antiseptic injection or wash: Acidi borici; aluminii et pot. sulph., vel. aluminii et ammonii sulph., hydrastis canadensis; acidi carbolic; thymol; eucalyptol; menthol; gaultheriæ.

I do not wish to use proprietary preparations. and a soluble powder of this composition would be of great use to me.

I would also like a formula for a non-saccharine solution of hypophosphites of calcium, potassium, sodium, magnesium, manganese, iron, quinine, and strychnine. One that will not precipitate with age. I am also in trouble about peroxide of hydrogen. Is the U. S. P. peroxide of hydrogen as strong and in every way as reliable as the well-known special brands on the market?

The following will make a satisfactory combination:

| | |
|-------------------------------|-----------|
| Boric Acid..... | 200 parts |
| Alum (Burnt)..... | 46 parts |
| Hydrastine Hydrochlorate..... | 1 part. |
| Carbolic Acid (Crystals)..... | 3 parts |
| Thymol..... | 3 parts |
| Eucalyptol..... | 1 part |
| Menthol..... | 1 part |
| Oil Gaultheria..... | 1 part |

Hydrastine hydrochlorate and oil of gaultheria are substituted for hydrastis and gaultheria, as the drugs themselves are not soluble in water.

A good formula for a solution of hypophosphites without sugar is:

| | | |
|---|-------|-----|
| Calcium Hypophosphite.... | 8.75 | Gm. |
| Potassium Hypophosphite.. | 8.75 | Gm. |
| Sodium Hypophosphite.... | 2.2 | Gm. |
| Magnesium Hypophosphite.. | 2.2 | Gm. |
| Ferric Hypophosphite..... | 4.38 | Gm. |
| Manganese Hypophosphite.. | 2.2 | Gm. |
| Quinine Alkaloid..... | 2.14 | Gm. |
| Dil. Hypophosphorus Acid (10 per cent.)..... | 5. | Cc. |
| Strychnine Sulphate..... | 0.068 | Gm. |
| Potassium Citrate..... | 5.5 | Gm. |
| Citric Acid..... | 0.7 | Gm. |
| Glycerin..... | 250. | Cc. |
| Comp. Sp. Orange (U. S. P.) | 8.5 | Cc. |
| Alcohol..... | 90. | Cc. |
| Solution Saccharin (N. F.) | 8. | Cc. |
| Water, to make..... | 1000. | Cc. |

Dissolve the ferric and manganese hypophosphites with the aid of the potassium citrate and citric acid in 150 Cc. of water by boiling. Dissolve the quinine by boiling it with 200 Cc. of water, to which the hypophosphorus acid has been added. (This so-

lution should have a distinctly acid reaction toward blue litmus paper.) Mix the two solutions, add the calcium, sodium, magnesium, and potassium hypophosphites, the strychnine sulphate, and sufficient water to make 625 Cc., and warm until solution has been effected. To the cool solution add the glycerin, the compound spirit of orange, previously diluted with the alcohol, and the solution of saccharin. Filter and pass sufficient water through the filter to make 1000 Cc. The solution of saccharin (N. F.) should be prepared from saccharin that is 500 times as sweet as cane-sugar. A deserts spoonful of this preparation contains calcium and potassium hypophosphites, of each 1 grn.; sodium, magnesium, manganese, and quinine hypophosphites, of each $\frac{1}{4}$ grn.; ferric hypophosphites, $\frac{1}{2}$ grn., and strychnine sulphate $\frac{1}{128}$ grn.

The U.S.P. preparation of peroxide of hydrogen is equal in strength to the well-known special brands on the market.

Neisser's Oil and Lang's Oil

Dr. J. J. B. asks for the composition of Neisser's Oil and of Lang's Oil, both used in syphilis.

Neisser's oil consists of mercury, 20 parts, ethereal tincture of benzoin (that is, benzoin dissolved in ether instead of in alcohol), 5 parts, and liquid vaselin, 40 parts. It is used in syphilis by hypodermic injection only.

Lang's oil is another name for gray oil or oleum cinereum; it was Dr. Lang, of Vienna, who in 1886, introduced the gray oil to the notice of the medical profession. The method of preparing gray oil is as follows: Take 2 dr. of wool-fat, add enough chloroform to make a kind of emulsion, allow the greater part of the chloroform to evaporate, but while the mixture is still of a fluid consistency, add 4 dr. of metallic mercury and triturate thoroughly. This ointment, which is in Germany referred to as strong gray ointment, contains, as is seen, 66 $\frac{2}{3}$ per cent. of metallic mercury; 2 parts of this mixed with 1 part of olive oil gives us a 50-per-cent. preparation, and of this, 1 to 3 min. are injected. On mixing 1 part of the "strong gray ointment" with 1 part of olive oil a 33 $\frac{1}{3}$ -per-cent. preparation is obtained, of which 1 to 5 min. are injected.

Bacelli's Malaria Mixture

Dr. N. V. R.—Bacelli's malaria mixture is not a nostrum. Its formula is as follows:

| | |
|-----------------------------|--------------------|
| Quinine Sulphate | |
| Tartaric Acid, of each..... | 45 grn. |
| Sodium Arsenate..... | $\frac{5}{6}$ grn. |
| Water..... | 10 oz. |

Dose: Tablespoonful four to six times a day.

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

Mortal Mind Volcanoes.—A year's subscription and the thanks of the editors will be tendered the one who will translate into understandable English the following Christian Science explanation of the Martinique catastrophe:

"Why, then, did God permit the destruction of St. Pierre? He did not, and we hold, furthermore, knew nothing about it. How did it happen? As everything evil 'happens,' through an erring human sense of things. All evil is error, a false, distorted, unreal sense of things, but the real, which is always the work of God, obeys the law of principle. The volcano can not erupt of its volition, for it has no volition, no will, no power. Does God or man bring about such a result? God certainly does not, for His is a nature of absolute love and goodness, and it is impossible for Him to precipitate evil or destruction upon His children. Neither can man with his material fingers do so. But, what we call mortal mind (the absence of the God thought) in man is apt to any phase of evil, and the law of earthquakes and other like phenomena is human made. . . . To the spiritually minded this is not at all vague."—*Mexican Herald*.

Can the vagaries of the human mind, outside of an insane asylum, reach wilder incoherence of thought than that? Mother Eddy will not permit omniscience to know anything about apparent evil, because God is absolutely good (good for nothing in a scheme of a universe like that) but "mortal mind" in Mexico or Concord may vomit the lava of Pelee upon the inhabitants of Martinique because of the "absence of God thought." How otherwise sane men and women can listen to and repeat what St. Peter rightly calls "great swelling words of vanity" is one of the mysteries of the human intellect that is past the finding out of this humble scribe. Dowie is understandable. He says he did it to punish the present generation for their scorn of Zion, on the North Shore, and if we don't watch out there will be earthquakes and volcanoes right here in Chicago to which Pelee was not a circumstance. This we can understand and either believe or flee to the mountains of Hepzidana, as our carnal minds prompt us, but the mysteries of the mortal mind volcano paralyzes us. It leaves you no alternative. Buy and study Mrs. Eddy's books, since she has closed the eyes and ears of God, whom you must now approach through her readers, or become *particeps criminis* in the making of more mortal mind volcanoes.—*Chicago Clinic*.

Malaria in the Roman Campagna.—From time to time we have heard a good deal about the attempts which have been made in various places to obtain protection from malaria by means of mechanical contrivances—wire screens, mosquito curtains, etc.—the object of which has been to prevent the access of the infected mosquitoes, and where Europeans live in the neighborhood of large numbers of natives who are beyond our control this may be, and indeed is, the only effective means of keeping the disease at bay. The native children are a perennial source of infection to the mosquitoes, and if we are to escape the disease we must keep these infected mosquitoes away during their "biting" hours. Clearly, however, when one has to do with a whole population, there

is a better way, for if over a considerable area we could but ensure by the careful administration of prophylactic drugs, such as quinine, that the people shall be immune to the parasite, even though only for a time, the very source of infection would be dried up and the disease would cease. This is the basis of the method of fighting malaria which has been recommended by Professor Koch. What is now being done in the Roman Campagna with the object of suppressing the malaria, which is so disastrous to the dwellers in that district, is founded on this idea. Professor Grassi determined to discard all mechanical arrangements and to trust to the prophylactic influence of quinine, either alone or in combination with other drugs. The results are stated to have been very encouraging. The people are regaining confidence; they stay in the place and keep their health; and although, as is the case wherever they exist, the anopheles continue to sting, they no longer infect, being themselves free from infection. The continued success of any such method will, however, depend to a large extent upon the care with which it is carried out, and more especially upon the care taken to exclude fresh infection, a thing which is difficult to do. As however, the area dealt with in this manner extends, this difficulty will probably much diminish. We may be sure that every care will be taken, for there is no single question of more importance to Italy at the present day than the suppression of malaria.—*Hospital*.

Recurrence in Cancer.—The question of the permanent curability of cancer by surgical means is one of paramount importance. From time to time cases have been published, both in this country and elsewhere, of patients that have survived for years after operation for cancer. Recently Labhardt has subjected the question of recurrence to an investigation, based upon a study of suitable cases reported in the literature and upon a number of observations made in the surgical clinic of Professor Garré at Königsberg. The particular question that Labhardt undertook to study was the occurrence of late recidivations. The return of a cancer after its removal has been and is the especial fact that makes the prognosis in operations for cancer so gloomy. In 1875, R. Volkmann promulgated the law that when a complete year has elapsed since operation without local recurrence, glandular swelling or symptoms of internal disease being demonstrable by the most careful examination, then one may begin to hope that a permanent cure has been obtained; and that after two years of freedom from any of these events permanent cure is usually, after three years without exception, certain to be the case. Since that time it seems that most authors have accepted Volkmann's generalization. Labhardt collected, after a thorough sifting of the cases in the literature and in the clinic, 112 cases of late recurrence, *i. e.*, after the third year. There was nothing remarkable about the age and condition of the patients in whom these recurrences developed. As regards time of the return, he finds that the majority occur in the fourth to the sixth year after the operation. After that recurrence is more rare, but he cites cases of recurrence in the fourteenth to the twentieth year, and even later. The reason that he speaks of these cases as recurrences is that the majority of them (75 per cent.) developed as local growths in the scar from the operation. From a study of these cases it would seem that the claim made by Duplay is correct, namely, that the period during which time

recidivation is possible appears to be, alas, indefinite. Volkmann's statement can not be accepted as correct any longer. Labhardt also states that in many cases there was a late appearance of metastases, but in much smaller proportion than the late local recurrence. In many cases, of course, it would have been exceedingly valuable and interesting if the growth that appeared so long after the operation could have been compared in structure with that removed first. In a few cases this was possible. He gives a table of cases of operations upon the mammary gland for cancer, showing that in 2,107, 48, or 2.3 per cent., showed late recurrences; that is to say, after the fourth year. In the case of 491 cancers of the rectum, 22, or 4.4 per cent., showed recurrence after the third year. It seems, then, from this study that a considerable percentage of patients operated on for cancer may have recurrence several years after the operation, mostly in the scar. The cancers that are most liable to recur are the slow-growing, relatively benign scirrhus tumors. —*Jour. A. M. A.*

Anonymous Communications.—Since journalism began the editors of every periodical have been compelled to re-repeat the old notice that unsigned letters and articles cannot be published. And still the warning is as much needed as ever it was. Every week we receive one or more anonymous letters, which, of course, must go into the waste basket. These letters or articles have a thin and poor mask of seriousness or science, which might deceive the inexperienced, and which perhaps did help the writer to delude himself. But somewhere in the writing will be found the personal or faddist element which motivated the whole. If there is any abuse or wrong that needs righting it will never be done by the man who is so little in earnest that he will not put his name to his work. In this world men must stand for and behind principles, whether they are good or bad ones, and if one is in downright earnest as to medical and professional progress he will at once not only see the necessity but he will be glad to place his personality at the service of the cause he advocates. It is true that there are in every million a few tuppenny characters who trade their worthlessness for the fame they get in injecting their names as exponents of an unpopular cause. These hobby riders, however, are not reformers, and they succeed in doing some good as subjects of study for morbid psychologists. Neither the anonymous egotist nor his self-exhibitionist brother has any altruistic purpose at heart. "We cannot read or publish anonymous communications."—*Hospital.*

Theory vs. Facts.—We can scarcely pick up a medical journal, nowadays, without finding some one condemning the eating of meats, claiming that as a diet it is unwholesome, and the producer of disease in incurable forms. It looks to us as if one doctor turned upon this lay, and the flock, like a herd of sheep, follow the leader without even stopping to question the whys and wherefores of his theory.

We may be a little like the man who said he had several times been upon juries, and each time he was so unfortunate as to be on a panel with eleven blockheads. Let this be so or not, we always wish for a reason for every thing, taking nothing as a fact without sufficient reasons. More especially so when facts to the contrary stand out plainly to be seen by all who will look care-

fully, and not take mere theory for facts in this question of meat as a wholesome food.

If we should attempt to follow all the theories that we see written, as to what we should not eat, we would, doubtless, all starve to death. This latter fact all will admit. The healthiest people we ever knew were the largest meat eaters, where it constitutes the principal part of their diet, too. And amongst civilized people the men of the greatest thews were very largely pork eaters. At one period of our life, we spent eight years on the frontiers, where oftentimes our diet was almost entirely of meat, and we were perfectly healthy, and could endure any amount of hardships. In fact, the word amongst the men was that they were so healthy, that it would be necessary to shoot a man in order to start a graveyard.

During part of our Western sojourn we were thrown amongst the Sioux, Crows, Blackfeet, and other tribes of Indians, and their food was meat entirely, and no more healthy people can be found any place. Phthisis pulmonalis was unknown, as was cancer also, which is proof positive to us that meat does not cause cancer. These people did not use salt, yet the mountaineers all used salt freely; all were alike healthy.

As to cause of cancer, we are positive that the use of tobacco (especially smoking), causes cancer of the mouth, throat, stomach, and lips. This latter fact we have observed closely during the last twenty-five years, and we are confident of the fact. Let our physicians write and advise against the filthy, degrading habit of using tobacco, and advise the use of good, fresh meats, and they will do the human family a favor beyond comprehension.—Floyd Clendenin, M.D., in *Med. Brief.*

Pine apple Juice in Medicine.—A good deal has lately been written about the digestive action of fresh pineapple. It has been pointed out that a freshly-cut slice of pineapple laid on a piece of beef-steak will in a comparatively short time cause softening, swelling, and partial digestion of the meat for a considerable depth from the surface. It is also stated that bromoline, the active principle of the pineapple, has long been used in the preparation of the well-known Masquera's beef jelly. Dr. Wyatt Wingrave says that the reputation of the pine has suffered, among other reasons, from the facts that far too much is eaten at a time, and that the fibrous part is swallowed as well as the juice. To obtain its full digestive value one quadrant of a slice half an inch thick is ample for one meal. It should be well masticated and the fibrous portion should be rejected. It must not be cooked, and should be just ripe. The preserved form has practically no digestive power. Apart from its use as a digestive the juice has a strong solvent action upon plastic exudation, such as diphtheria membrane. When applied to such a membrane on a swab, or as a spray, its time of contact is not enough to cause solution, but it is of material service in softening the sticky and stringy exudation so as to admit of its easy detachment. It also softens horny epidermis in the same way as, although more slowly than, salicylic acid. If a thin slice of pineapple be kept in close contact with a corn for eight hours it will be so softened as to admit of ready removal. Again, it softens the horny papillae in keratosis of the tonsil, and quickly relieves the prickly sensation complained of in that condition. Evidently the pineapple is possessed of useful as well as of agreeable properties.—*Hospital.*

Advertising in Its Various Grades.—The ethical pronouncements of the *British Medical Journal* must always have a certain amount of interest, for it is only fair to believe that they are intended to express the sentiments of the Association of which that journal is the mouthpiece. It is, therefore, with considerable satisfaction that we find it urging, as we have urged again and again, that "it is very much to be desired that the General Medical Council, as well as the licensing bodies, should say distinctly what may not be done by medical practitioners in the matter of advertising."

The question has arisen in connection with the custom, which appears to exist in certain places, of advertising in the newspapers the names of the medical officers attached to the local "hydros" and similar institutions, and it is held that, in view of the determination of the General Medical Council to put a stop to the association of medical practitioners with medical aid societies which systematically practise canvassing and advertising for the purpose of securing patients, it would be "illogical to stop short at that point and not to prohibit advertising by medical practitioners themselves as well as the use of their names for advertising purposes by institutions, worked for profit, with which they may be connected." We cannot but agree with the sentiment, although we hesitate to accept the limitation implied by the words "worked for profit." It is the advertising "for the purpose of securing patients" which is the offence, the immediate profit made by the institutions by which the advertisements are ostensibly inserted being entirely beside the question; indeed, in one of the first cases dealt with by the Council it was admitted that not only was there no profit, but that a very heavy loss was suffered by the institution in question. But what about the other, and quite as obvious, modes of advertising? Neither we nor the *British Medical Journal* can have any right, if we wish to be logical, to pillory certain gentlemen at Ilkley because their names appear in the advertisements of the hydropathic and other establishments with which they are connected, unless we are prepared to do the same in regard to many other forms of advertising, which have the effect of "securing patients," although they may not have been directly devised "for the purpose" of so doing. Are we so prepared? Those who excuse advertising would say that it is so evidently for the public convenience that, when a patient wishes to go to an institution conducted under the supervision of a reputable medical man, he should be able to find in an advertisement the information which he requires, that such advertising ought to be allowed. But, then, it may equally be said that it would be for the public convenience that a man wanting a specialist should be able to turn to the booksellers' lists in the daily and weekly papers and so find out who is "an authority" on the subject. Thus we soon find ourselves on the down grade, in the midst of writers of pamphlets written only that by being advertised they may advertise the writers, and to this position it is to be feared we have already nearly arrived.

Book-advertisement, even in the so-called medical papers, is too often mere self-advertisement, and it would certainly be doing little injustice, even to many men who stand pretty high in the profession, if we were to hint that they derive certain collateral advantages from the advertisement of their books quite apart from the increase of sales which may possibly be thereby induced—advantages not entirely disconnected with that "securing of patients" as to which the Medical

Council has spoken so severely. Are we then prepared to stop all these advertisements? If, however, we are to persist in our effort to be logical, we must go still further, and must inquire whether the announcements of the names of the physicians and surgeons, the gynecologists and ophthalmologists, the throat men, ear men, nose men, and skin men, which appear in the reports of our great hospitals and in the advertisements of their medical schools—pamphlets which are issued by tens of thousands every year—not to mention the publication of the names of the medical officers of certain special hospitals, are not also to be classed and to be condemned as advertisements.

Where are we to stop? At the one extreme we have the annual reports of the great hospitals, bristling with the names of baronets and great men—sorted out as physicians, surgeons, and specialists—reports carefully scanned by the wealthy when they desire a "second opinion;" then we come to the prospectus of the medical school, full of the names of specialists in every department, issued broadcast every summer among the middle classes and sometimes even inserted in the lay papers; then come the advertisements of sanatoria, and "open-air cures," of "hydros" and such-like institutions; and gradually we descend, by way of books and "treatments" and biscuits and dietetic substances—all with the names of the authors and inventors attached—until we reach things unmentionable. Who is to draw the line we know not, unless the Medical Council will intervene.—*Hospital*.

A "Busy Doctor."—One of the peculiar things in our profession is the fact that we have two classes of busy doctors. One is represented by a class of men who have made a name for themselves, men who stand on the top rung of the ladder and have reached it by doing hard work, good work in a scientific way, and yet attend to a very large practice. This class of men, as a rule, take our best journals and read them. They have sent to them regularly all the new medical books that come out, and evidently they read them. Such men not only carry on a large practice and do a large amount of reading, but they also write excellent articles for publication and read papers before medical societies. This is one class of "busy doctors." There is, however, another class of "busy doctors." These men have made for them special books that are written for the "busy doctor." These books do not go too deep into the scientific side of the subject, but give only the practical. There are also certain journals that are gotten up for this class of "busy doctors." They are what are called the "practical" medical journals. These thoughts come to our mind on reading a letter just received from one "busy doctor." It reads as follows: "It (*The Journal*) comes to me each week, but I have never read a page of it yet, and hardly expect to. I would love to read it, but have no time. I have to use every hour during the day to fill my professional calls, and at night I must sleep, so can not possibly have time to read. You may discontinue *The Journal*, as it is of no use to me." If any comment were necessary we might ask, is this man faithful to the sacred trust imposed in him by his patients? Is any physician justified in being "too busy" to keep in touch with the methods and experience of other practitioners in his line of practice? Will it pay him to thus disregard the interests of his patients—to say nothing of the future of his practice.—*Jour. A. M. A.*

Book Reviews

A TEXT-BOOK OF PRACTICAL THERAPEUTICS: with especial reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M.D., professor of therapeutics and materia medica in the Jefferson Medical College of Philadelphia. Hare's text-book is so well and so favorably known that there is really nothing new to be said about it, except that in this, the ninth edition, the alert author has done everything possible to bring the book up to—or is it "down to"?—date, and to make it of still greater utility to the medical practitioner. Not only has the text been carefully revised, but all new measures which seem useful have been included, and there have been added nearly 100 new illustrations, many of which show the actual application of the procedure described. Throughout the book the author shows that he considers clinical facts of higher importance than laboratory experiments, and with this view we are fully in accord, as we have said more than once in the ARCHIVES. (Lea Brothers & Co., Philadelphia and New York. New (9th) edition. In one octavo volume of 851 pages, with 105 engravings and 4 colored plates. Price, cloth, \$4; leather, \$5; half morocco, \$5.50 net.)

WOOLSEY'S SURGICAL ANATOMY. Applied surgical anatomy regionally presented, for the use of students and practitioners of medicine. By GEO. WOOLSEY, A.B., M.D., professor of anatomy and clinical surgery in the Cornell University Medical College. Prof. Woolsey is one of our best anatomists and we have had the pleasure of attending his lectures on the subject. We are in accord with the publishers when they state that the author understands anatomy, both as a science in itself and as a means to an end. Anatomy underlies the whole of medicine, and constitutes a large portion of the practice of surgery. Clear ideas of the structure underneath must precede any use of the knife. Consequently a book like the present, which joins anatomy and surgery, is indispensable to all who have or may have surgery to do, be they surgeons, general practitioners or students. To the latter class it would be doubly helpful, for the practical applications of any subject greatly promote the assimilation of the masses of crude anatomical facts with which students have to load themselves. Such a work relieves the study of anatomy of much of its difficulty, and will be one of the books which the new graduate will carry with him from college to office. The book contains large and handsome plates in colors. (Lea Brothers & Co., Philadelphia and New York. 1902. Octavo, 511 pages, with 125 illustrations, including 59 full-page inset plates in black and colors. Price, cloth, \$5 net; leather, \$6 net.)

GRAYSON'S LARYNGOLOGY is intended for specialists, for general practitioners, and for students. There are many books on diseases of the nose, throat, and ear, but the following from the author's preface is his justification for appearing in the arena with another treatise on that subject. He says: "In many of the recently published works that deal with the diseases of these specialized regions so great a number of remedies will be found, and such a generous variety in the methods of treatment suggested, that they can

scarcely fail to prove embarrassing to the younger or the less experienced reader. The author has endeavored to eliminate this difficulty of choice by giving under each disease but one plan of treatment—that which he has found to have been most often successful in subduing its symptoms and shortening its duration. In doing this, however, he has not overlooked the complicated and the exceptional cases such as will now and again occur in everyone's experience, and for these one or several modifications of the routine plan are added which may be adopted or still further modified at discretion. Moreover, although no written description can ever attain the value of clinical instruction, an attempt has been made to approach this by dwelling at such length upon each distinct detail of examination and of the therapeutic technique that the reader will miss the benefit of clinical teaching as little as possible." Our impression of the book is a distinctly favorable one. The author, Charles P. Grayson, M.D., is the lecturer on and instructor in laryngology in the Medical Department, University of Pennsylvania. (Lea Brothers & Co., Philadelphia and New York. 1902. 129 engravings, 8 colored plates, and 540 pages. Price, cloth, \$3.50 net.)

TEXT-BOOK OF PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY. By G. Bunge, professor of physiological chemistry at Bâle. Prof. Bunge is an authority on physiological chemistry, with an international reputation. The work he has done either independently or in conjunction with Schmiedberg and others has had a profound influence on physiological thought in every civilized country. The appearance of his excellent text-book in an English translation is, therefore, a cause for congratulation. The editor of the translation, Prof. Starling, of the University College, London, well says that in Bunge we have a man who was a philosopher, mathematician, and chemist before he was a physiologist, and being thus in a position to grasp the general bearings of his subject, he succeeded in making the dry subject of physiological chemistry interesting even to the beginner.

Throughout the work the author has kept one aim in view: the encouragement of original research and the study of original sources. Descriptions of analytic methods have for the most part been avoided, as they would interrupt the main narrative, and also because we already possess numerous standard works on chemical analysis in physiology and pathology. (P. Blakiston's Son & Co., Philadelphia. 470 pages. Price, cloth, \$3 net.)

A PRACTICAL TREATISE ON SMALLPOX, illustrated by colored photographs from life. In two parts. By George Henry Fox, A.M., M.D. Not long ago we thought we were through with smallpox, that it was a disease of the past. Students considered it a waste of time to study its symptomatology, physical characteristics, differential diagnosis, etc. What for? A case of smallpox was such an *avis rara*. The experience of the past two years shook us rudely from our sleep of security, and showed us that here as elsewhere eternal vigilance is the price we must pay for freedom—from smallpox. The treatise is, therefore, exceedingly timely. The text is clear and concise and the illustrations are magnificent. As smallpox threatens to stay with us for some time, we advise every reader to procure a copy of this work. It may save him trouble and embarrassment. (J. B. Lippincott Company, Philadelphia and London. 1902.)

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With Notes on Infant Feeding. By CHARLES JEWETT, A.M., M.D., Sc.D., Professor of Obstetrics and Diseases of Women in the Long Island College Hospital, Brooklyn, N. Y. **First Edition.** 12mo. 96 pages. Cloth, 80 cents net.

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Miscellany

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A THEOLOGIAN'S JOKE ON THEOLOGY.—Around the table sat four college-bred men: a lawyer, a physician, an electrician, and a theologian. There arose a dispute as to which of the sciences was the oldest. "Jurisprudence, of course," said the lawyer. "That was known already in Paradise, for Adam and Eve were evicted." "Oh, no," said the physician; "medicine is, without doubt, older. Just remember the operation performed on Adam for the possession of the rib. That was before they entered Paradise!" "You are both wrong, gentlemen," said the electrician; "the palm belongs to we electricians, as before anything else existed, there issued forth the command: 'Let there be Light.'" "I do not wish to appear boastful," then spoke up the theologian, "but I believe the priority belongs to us, for before there was light there was darkness."—Rosegger's "Heimgarten."

A MARVELOUS RECOVERY.—In the very beginning, I wish to disclaim any merit or agency in the results attained by skill, or it may be, through the intervention of Divine Providence. The late Dr. R. N. Todd was accustomed to explain unexpected recoveries by saying, very gravely, "God is good." It seems that this aphorism is appropriate to the following case.

In September, 1901, I was called by Drs. J. H. Brill and Frank C. Ferguson to administer an anesthetic for an operation in a case of appendicitis.

We called at the residence of the patient, an adult male, and found, not squalor, but filth abounding. A so-called nurse had been engaged and was officiously manipulating affairs when we arrived. She and the wife had just finished dressing our patient in a new, and therefore, clean suit of underwear, but, as we ascertained afterward, had not thought it necessary to go through the formality of administering a lavement to the outer man before clothing him in new apparel.

When, after the operation, it became necessary to remove the undershirt, and, indeed before the operation when Dr. Ferguson shaved the pubes, he found such an accumulation of filth, that he hazarded the assertion that, "This man has not had an all-over bath since his operations in 'The Old Swimmin' Hole,' of his boyhood days."

We found the patient feverish, suffering some pain, though not nearly so intense as he had a few hours before our call. There was a swelling of the thickness of the hand over the region of the cecum, making the diagnosis of appendicitis with formation of abscess by Dr. Ferguson, on the preceding day, perfectly apparent to any observer.

Incision in the usual site was made, and when the peritoneum was incised, the operator introduced two fingers into the abdominal cavity to ascertain the relations of the abscess wall. During the most gentle manipulation the sac burst and pus was thrown more than two feet upward. As adhesions and intense inflammation were everywhere in that region, it was deemed best by the operator to no longer continue the search for the appendix; so the abscess cavity was flushed with a 1-2,000 bi-chloride solution. When this lavement was finished, Dr. Ferguson, to his consternation, found that the abscess cavity com-

municated with the abdominal cavity. He immediately flushed the abdomen with normal salt solution, using in all about three gallons.

The incision was partly closed; drainage provided for and dressings applied.

For three days the patient had practically normal temperature, and seemed on the road to uninterrupted recovery. Then, it was discovered that gas and small portions of fecal matter were escaping from the incision. At the end of a week all fecal matter escaped by the wound, and the patient on account of unsanitary surroundings, was ordered to be taken to the Deaconess' Hospital, for a secondary operation to close the opening in the cecum left by the sloughing of the appendix.

At noon of the day after the removal to the hospital, Dr. Ferguson was hastily summoned to attend him, and found it imperative to do an emergency operation for the arrest of hemorrhage caused by sloughing of those parts of the omentum which had formed a part of the abscess walls.

Exsanguinated, nearly pulseless, he was put upon the table and anesthetized. A piece of omentum as large as the operator's hand, and another half that size were ligated, enucleated and excised. Handfuls of clotted blood were scooped from the abdominal and pus cavities. Closure of the cecum with Lembert sutures was begun, when the patient apparently expired. Dr. Ferguson remarked that he had as well desist, as the patient was dead; whereupon, an assistant placed his ear to the chest and said: "Finish the operation, Doctor, his heart still beats." The opening into the cecum was inverted and closed with a double row of Lembert sutures, the toilet of the peritoneum was made, drainage provided; so, the work was done.

When it was finished the patient lay with the jaw dropped, eyes fixed, and pupils dilated, features stark and expressionless; without perceptible respiration—a picture of death. Yet there was a faint sound indicating that the heart still contracted, and life was not quite extinct.

He was placed in a warm bed, well covered, hot bottles placed about him and powerful stimulants administered hypodermically and per rectum, and he began slowly to respond, giving evidence of a withdrawal from the Styx into which he began to descend. Recovery was not rapid, but complete, and the case is a marvel to all who witnessed the ordeal.—Wm. B. Ryan in *Med. and Surg. Monitor*.

REPORT OF MEETING OF A MODERN MEDICAL SOCIETY.—The following skit, while, of course, an exaggeration, contains a good modicum of truth, and we therefore, reproduce it here:

First Surgeon: I have to bring before the members of this society a report of an extremely interesting case of rupture of the liver. The patient was accidentally kicked over a fence by a mule and fell with his right side striking on a nigger head.

No symptoms developed for twenty-four hours, when the family becoming alarmed at the absence of symptoms, I was called in to see the case, and at once diagnosed a rupture of the liver. The signs were somewhat obscure, but an operation made some thirty-six hours subsequent proved the correctness of my observations. The liver and portal vein were carefully sutured, the abdominal wound closed by four rows of sutures—catgut, silk, silkwormgut and silver wire, respectively—and the patient made an uneventful recovery, the stitches being removed on the seventh

day, and the patient returned to his occupation as mule-driver two days later, or nine days from date of operation. In conclusion I would say that the chief points of interest in this case are the accuracy of the diagnosis, as well as of the facts in the case, and the most excellent results following a most hazardous and desperate operation.

Chairman: The most interesting paper of Surgeon — is now open for discussion.

Oculist: I am sure we are very much indebted to Surgeon — for his most valuable contribution to surgical knowledge, and the case reminds me of a rupture of an eyeball in a well known man about town, following an attempt to watch all the ballet girls at once. In this case I made a careful examination with the ophthalmoscope, finding marked evidence of blepharospasm, posterior synechia, choked disc, and external strabismus. The treatment consisted of a prompt removal of the eye. The cure was prompt and uneventful, and up to this date he has not attempted again to attend a ballet performance. In conclusion I again wish to congratulate the author and the society upon his paper.

Gynecologist: The subject under discussion is somewhat out of my line of work, but is a very brilliant result and reminds me of a case of endometritis fungoides complicating a Bartholinian cyst in a patient ninety-six years of age. In this case I removed the uterus and appendages per vagina after excision of the cyst. She made an uneventful recovery and has since married and feels as young as she did seventy years ago. I thank the doctor for the opportunity which his paper has given me to present this case.

Rhinologist: I cannot allow this opportunity to pass without referring to a case which this valuable report of a rupture of the liver has brought to mind. Some years ago Mary G. snuffed a bean up her nose. A careful inquiry at the time failed to reveal the bean, but yesterday, or two years from the date of first observation, there appeared an unmistakable bean-sprout extending at the anterior nares. I at once diagnosed a sprouting bean and removed it, under cocaine. No untoward effect was produced, the patient making an uneventful recovery. The interesting feature in the case was that the patient came from Boston and had probably been addicted to the bean habit for many years. I congratulate the doctor upon his very able paper.

Neurologist: Rupture of the liver must call to mind of all of us that from such sudden jars we may obtain ruptures of the cerebral sinuses, or hemorrhage into the spinal canal. In a similar case to that related by the doctor, motor paralysis was present from the moment of receipt of shock incident to receipt of check for an outlawed bill. I made the diagnosis without any difficulty and offered to relieve the patient of the exciting cause. This he refused, and his paralysis was recovered from in time to take in the races the next day. Again I wish to congratulate the doctor upon his very elaborate and painstaking paper.

Second Surgeon: I can but indorse everything that the author has said and appreciate fully the value of the paper. I wish to take exceptions, however, to the means of diagnosis and to say that from the symptoms related there could not possibly have been a rupture of the liver—nor could he, in my estimation, have sewn up the portal vein without seriously interfering with the functions of the liver and bringing on an attack of the piles. In all cases of this kind in which I have operated I have made it a point at the same time to dissect out very carefully the pile-bearing

(Continued on p. XIV)

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(Continued from p. xiii)

area. In conclusion, Mr. Chairman, I would say that I hope no one will think from my remarks that I differ in any essentials from the practice of my distinguished confrere.

Orthopedist: During my connection with the Hospital for Cripples I noticed very often and have the records of 150 cases which show the difference in appreciation of pain in different children. In some of the cases of kyphosis a plaster bandage was well tolerated, notwithstanding the formation of decubital sores, extending down to and laying open the spine—while in others bitter complaint was made by the patient and it was necessary to remove the plaster and apply it according to an original method devised by me. The resemblance between these cases and that related in the paper this evening is very marked, and I appreciate the value of this addition to medical knowledge as confirmatory of my own experience at the Hospital for Cripples.

Chairman: As there is no further discussion upon this paper, I would say that we are all very much pleased by the elaborate and carefully prepared discussion which it has called forth—and I will ask Surgeon — to close the discussion.

Surgeon —: The field of surgery has been so fully covered that I feel it impossible for me to add anything to that which has been already said.—Dr. F. E. Bunts in *Cleveland Med. Gaz.*

A CERTAIN learned professor was instructing a class of schoolboys about the circulation of the blood. To make sure that they understood, he proceeded to question them.

"Can you tell me," said he, "why it is that if I were to stand on my head there would be a rush of blood to my head, and that there is no rush of blood to my feet when I stand upon them?"

For a moment there was a silence, and then a small boy answered:

"It's because your feet are not empty, sir."—*Diet. and Hyg. Gazette.*

THIS poem is given by Dr. W. W. Keen in his "Sketch of the Early History of Practical Anatomy." He takes it from Gibson's "Rambles in Europe:—"

THE INVISIBLE GIRL.—

'Twas in the middle of the night
To sleep young William tried;
When Mary's ghost came stealing in
And stood at his bedside.

Oh, William, dear! Oh, William, dear!
My rest eternal ceases;
Alas! My everlasting peace
Is broken into pieces.

I thought the last of all my cares
Would end with my last minute,
But when I went to my last home,
I didn't long stay in it.

The body snatchers, they have come
And made a snatch at me;
It's very hard them kind of men
Can't let a body be.

You thought that I was buried deep,
Quite Christian-like and chary;
But from her grave in Mary-le-bone,
They've come and boned your Mary.

"The arm that used to take your arm
Is took to Dr. Vyse;
And both my legs are gone to walk
The hospital at Guy's.

I vowed that you should take my hand,
But fate gave us denial;
You'll find it there at Dr. Bell's
In spirits and a phial.

As for my feet, my little feet,
You used to call so pretty,
There's one, I know, in Bedford Row,
The t'other's in the city.

I can't tell where my head is gone,
But Dr. Carpus can;
As for my trunk, it's all packed up
To go by Pickford's van.

I wish you'd go to Mr. P.
And save me such a ride;
I don't half like the outside place
They've took for my inside.

The cock, it crows, I must be gone;
My William, we must part;
But I'll be your's in death, although
Sir Astley has my heart.

Don't go to weep upon my grave,
And think that there I be;
They haven't left an atom there
Of my anatomy.

—*Med. News.*

THE PHYSICIAN AS A SOCIAL ECONOMIC FACTOR.
—Twenty years ago tuberculosis was a mystery—deadly as the embrace of the boa—fatal as the sting of the asp—but to-day the great medical laboratories, the doctors' manual training schools, have laid bare its erstwhile mysteries and are rapidly loosening its deadly grasp and plucking its fatal fangs.

Twenty years ago the paranoiac murderer hanged beside the wilful assassin, but to-day the keen-thinking equity-loving physician guides court and jury into the path of actual justice.

Gentlemen, have we done and are we doing our best here? Are we not yet prone to sit in the galleries, silent and helpless, while we are needed in the arenas? We owe the public the benefit of our learning and skill, whether dealing with the criminal, the lunatic, the inebriate or the physically unsound. The fulfilment of this duty will lead to the broadening and deepening of our influence. Let us wake up here and do our fuller duty, gain the greater influence and accomplish the most good.

Twenty years ago men about to enter new business relations did not first obtain their physician's opinion, but they are doing it now among the most intelligent classes, and within a few years the physician's permission will be a *sine qua non* among men about to make radical changes in life, as well as in the choice of callings. The writer can recall numerous interviews like these: "Doctor, I'm about to go into cotton manufacturing, what do you think of it?" "Your lungs are not suited; stick to your farm." "See what you think about my going on the road." "Your stomach will not stand the irregularities." "What do you think my boy should be?" "A mechanic." "Do you think daughter should marry?" "Yes."

Brothers, there is where our power lies; why

(Continued on p. xvi)

MEETINGS OF NATIONAL MEDICAL SOCIETIES

| NAME | ANNUAL MEETING | WHERE HELD | SECRETARY |
|--|-----------------------------|--------------------------|--------------------------------------|
| American Academy of Medicine..... |, 1903..... | Columbia, Pa..... | A. R. Craig..... |
| Academy of Railway Surgeons..... | October 2-3, 1902..... | Kansas City, Mo..... | T. B. Lacey, Council Bluffs, Ia. |
| Anatomists, Association of..... | ..... | ..... | D. S. Lamb, Washington, D. C. |
| Assn. of Genito-Urinary Surg..... | May 12-14, 1903..... | Washington, D. C..... | John Vanderpoel, New York City. |
| Assn. of Obstetricians & Gyn..... | Sept. 16-18, 1902..... | Washington, D. C..... | W. W. Potter, Buffalo, N. Y. |
| Assn. of Military Surgeons of the U.S. | May, 1903..... | Boston, Mass..... | Major J. E. Pilcher, Carlisle, Pa. |
| Assn. for Study & Cure of Inebriety. | October 20, 1902..... | ..... | T. D. Crothers, Hartford, Ct. |
| Climatological Association..... | May, 1903..... | Washington, D. C..... | Guy Hinsdale, Philadelphia, Pa. |
| Dermatological Association..... | Sept. 18, 19, 20, 1902..... | Boston, Mass..... | F. H. Montgomery, Chicago, Ill. |
| Electro-Therapeutic Association..... | Sept. 2, 3, 4, 1902..... | Catskill Mts., N. Y..... | Geo. E. Bill, Harrisburg, Pa. |
| Gastro Enterological Association..... | May 1, 1903..... | Washington, D. C..... | Chas. D. Aaron, Detroit, Mich. |
| Gynecological Society..... | May 5-7, 1903..... | Washington, D. C..... | J. R. Goffe, New York City. |
| Laryngological Association..... | May 12-14, 1903..... | Boston, Mass..... | Jas. E. Newcomb, New York City. |
| Larynx, Rhin., and Otol. Society..... | ..... | ..... | Wendell C. Phillips, New York City |
| Medical Association..... | June, 1903..... | New Orleans, La..... | Geo. H. Simmons, Chicago, Ill. |
| Medical Editors' Association..... | ..... | ..... | O. F. Ball, St. Louis, Mo. |
| Medical Colleges, Assoc. of..... | ..... | ..... | Bayard Holmes, Chicago, Ill. |
| Medico-Psychological Assoc..... | ..... | ..... | C. B. Burr, Flint, Mich. |
| Neurological Association..... |, 1902..... | New York City..... | G. M. Hammond, New York City. |
| Ophthalmological Society..... | May, 1903..... | Washington, D. C..... | S. B. St. John, Hartford, Conn. |
| Orthopedic Association..... | ..... | Phila, Pa..... | John Ridlon, Chicago, Ill. |
| Otological Society..... | May, 1903..... | ..... | F. L. Jack, Boston, Mass. |
| Pediatric Society..... | May 12-14, 1903..... | ..... | S. S. Adams, Washington, D. C. |
| Physicians, Association of..... |, 1903..... | Washington, D. C..... | H. Hun, Albany, N. Y. |
| Protologic Association..... | ..... | ..... | W. M. Beach, Pittsburg, Pa. |
| Public Health Association..... | December, 1902..... | New Orleans, La..... | C. O. Probst, Columbus, Ohio. |
| Surgical Association..... |, 1903..... | Washington, D. C..... | Dudley P. Allen, Cleveland, O. |
| Therapeutic Society..... | ..... | Washington, D. C..... | Noble P. Barnes, Washington, D. C. |
| Canadian Med. Association..... | September 16-18..... | Montreal, Can..... | George Elliott, Toronto, Canada. |
| Con. of State and Prov. Bds. of Health of North America..... | ..... | ..... | ..... |
| International Assn. of Railway Surg..... | December, 1902..... | New Orleans, La..... | G. F. Swarts, Providence. |
| Mississippi Valley Med. Assoc..... | May, 1903..... | Indianapolis, Ind..... | L. J. Mitchell, Chicago, Ill. |
| Missouri Valley, Med. Soc. of the..... | October 15-17, 1902..... | Kansas City, Mo..... | H. E. Tuley, Louisville, Ky. |
| Nat. Con. State Med. Exam. & License Boards..... | September 18, 1902..... | Sioux City, Ia..... | Chas. W. Fassett, St. Joseph, Mo. |
| Roentgen Society of the U. S..... | ..... | ..... | A. W. Suitor, Herkimer, N. Y. |
| Seaboard Medical Association..... | December, 1902..... | Wilson, N. C..... | J. Rudis Jicinsky, Cedar Rapids, Ia. |
| Southern Med. College Assoc..... | ..... | ..... | John R. Bagby, Newport News, Va. |
| Southern Surg. & Gyn. Assoc..... | November 12-14, 1902..... | Cincinnati, O..... | G. C. Savage, Nashville, Tenn. |
| Tri-State Med. Soc. of Ala., Ga. & Tenn. | October 8-10, 1902..... | Birmingham, Ala..... | W. D. Haggard, Jr., Nashville, Tenn. |
| Med. Soc. of Iowa, Ill. & Mo..... | April 2-3, 1903..... | Hannibal, Mo..... | Frank T. Smith, Chattanooga, Tenn. |
| Med. Soc. of Md., W. Va. & W. Pa..... | ..... | ..... | W. B. La Force, Ottumwa, Ia. |
| Western Ophthal and Oto-Laryng. Assn. | April 9-11, 1903..... | Indianapolis, Ind..... | Percival Lantz, Alaska, W. Va. |
| Western Surgical and Gynecological Association..... | December 29, 1902..... | St. Joseph, Mo..... | D. T. Vail, Cincinnati, O. |
| ..... | ..... | ..... | Geo. H. Simmons, Chicago, Ill. |

MEETINGS OF STATE MEDICAL SOCIETIES

| NAME | ANNUAL MEETING | WHERE HELD | SECRETARY |
|--|-------------------------------|----------------------------|--------------------------------------|
| Alabama Medical Association..... | April 21, 1903..... | Talladega, Ala..... | G. P. Waller, Montgomery, Ala. |
| Arizona Medical Association..... |, 1903..... | Phoenix, Ariz..... | Chas. H. Jones, Tempe, Ariz. |
| Arkansas Medical Society..... | May 12-14, 1903..... | Jonesboro, Ark..... | J. P. Runyan, Little Rock, Ark. |
| California, Med. Soc. of the State of..... | April 24, 1903..... | San Barbara, Cal..... | George H. Evans, San Francisco, Cal. |
| Colorado State Medical Society..... | June 16, 1903..... | Denver, Colo..... | J. M. Blaine, Denver, Col. |
| Connecticut Medical Society..... | May 27-28, 1903..... | Hartford, Conn..... | N. E. Wordin, Bridgeport, Conn. |
| Delaware Medical Society..... | June 9, 1903..... | Dover, Del..... | John Palmer, Jr., Wilmington, Del. |
| Dist. of Columbia Medical Association..... | Oct ber 7, 1902..... | Washington, D. C..... | Monte Griffith, Wash. |
| Florida Medical Association..... | April 8, 1903..... | St. Augustine, Fla..... | J. D. Fernandez, Jacksonville, Fla. |
| Georgia Medical Association..... | April 15, 1903..... | Columbus, Ga..... | Louis H. Jones, Atlanta, Ga. |
| Idaho State Medical Society..... | October 9, 10, 1902..... | Moscow, Idaho..... | Ed. D. Maxey, Caldwell, Idaho. |
| Illinois State Medical Association..... | May 19-21, 1903..... | Chicago, Ill..... | E. W. Weis, Ottawa, Ill. |
| Indian Territory Medical Association..... | December 2-3, 1902..... | Muskogee, I. T..... | Fred. S. Clinton, Tulsa, I. T. |
| Indiana State Medical Society..... |, 1903..... | Richmond, Ind..... | C. F. Heath, Indianapolis, Ind. |
| Iowa State Medical Society..... | May 20-22, 1903..... | Sioux City, Iowa..... | V. L. Treynor, Council Bluffs, Ia. |
| Kansas Medical Society..... | May 6-9, 1903..... | Concordia, Kan..... | J. W. May, Kansas City. |
| Kentucky State Medical Society..... | May 12, 1903..... | Louisville, Ky..... | Steele Bailly, Stanford, Ky. |
| Louisiana State Medical Society..... | April 23-24, 1903..... | New Orleans, La..... | H. B. Gessner, New Orleans, La. |
| Maine Medical Association..... | June 3-5, 1903..... | Portland, Me..... | Charles D. Smith, Portland, Me. |
| Maryland Medical and Chirurg. Faculty | April 28, 1903..... | Baltimore, Md..... | J. W. Lord, Baltimore, Md. |
| Massachusetts Medical Society..... | June 9-10, 1903..... | Boston, Mass..... | F. W. Goss, Roxbury, Mass. |
| Michigan State Medical Association..... | June 26-27, 1903..... | Port Huron, Mich..... | Andrew P. Biddle, Detroit. |
| Minnesota State Medical Society..... | June 17, 1903..... | St. Paul, Minn..... | Thos. McDavitt, St. Paul, Minn. |
| Mississippi State Medical Association..... | April 21-23, 1903..... | Greenville, Miss..... | C. H. Trotter, Northfield, Miss. |
| Missouri State Medical Association..... | May 19, 1903..... | Excelsior Springs, Mo..... | E. J. Goodwin, St. Louis, Mo. |
| Montana Medical Association..... |, 1903..... | ..... | B. C. Brooke, Helena, Montana. |
| Nebraska State Medical Society..... | May 5-7, 1903..... | Lincoln, Neb..... | A. D. Wilkinson, Lincoln, Neb. |
| New Hampshire Medical Society..... | May 21-22, 1903..... | Concord, N. H..... | G. P. Conn, Concord, N. H. |
| New Jersey Medical Society..... | June 23-25, 1903..... | Atlantic City, N. J..... | E. W. Hedges, Plainfield, N. J. |
| New Mexico Medical Society..... | May 13, 1903..... | E. Las Vegas, N. M..... | J. F. McConnell, Las Cruces, N. M. |
| New York State Medical Association..... | October 21, 22, 23, 1902..... | New York City..... | G. D. Lombard, New York City. |
| N. Carolina, Medical Soc. of the State of |, 1903..... | Hot Springs, N. C..... | J. Howell Way, Waynesville, N. C. |
| North Dakota Medical Society..... | May, 1903..... | Bismarck, N. D..... | E. C. Branch, Wheatland, N. D. |
| Ohio State Medical Society..... | May, 1903..... | Dayton, O..... | F. M. Foshay, Cleveland, Ohio. |
| Oregon State Medical Society..... | September, 1902..... | Portland, Ore..... | A. D. Mackenzie, Portland, Ore. |
| Pennsylvania Medical Society..... | Sept. 16-18, 1902..... | Allentown, Pa..... | C. L. Stevens, Athens, Pa. |
| Rhode Island Medical Society..... | September 4, 1902..... | Newport, R. I..... | S. A. Welch, Providence, R. I. |
| South Carolina Medical Association..... | April 15, 16, 1903..... | Sumpter, S. C..... | Wm. Weston, Columbia, S. C. |
| Tennessee State Medical Society..... | April 14, 15, 1903..... | Nashville, Tenn..... | D. J. Roberts, Nashville, Tenn. |
| Texas State-Medical Association..... | April 12, 1903..... | San Antonio, Texas..... | H. A. West, Galveston, Tex. |
| Vermont State Medical Society..... | October 9, 10, 1902..... | Burlington, Vt..... | G. H. Gorham, Burlington, Vt. |
| Virginia, Medical Society of..... | September 23-25, 1902..... | Newport News, Va..... | L. B. Edwards, Richmond, Va. |
| Washington State Medical Society..... | ..... | ..... | A. H. Coe, Spokane, Wash. |
| West Virginia Medical Society..... | May, 1903..... | Charleston, W. Va..... | W. W. Golden, Elkins, W. Va. |
| Wisconsin State Medical Society..... |, 1903..... | Milwaukee, Wis..... | Charles S. Sheldon, Madison, Wis. |
| Wyoming State Medical Society..... | Sept. 9-10, 1902..... | Cheyenne, Wyo..... | C. H. Solfer, Evanston, Wyo. |

(Continued from p. xvi)

the future will find us such potent social economic factors—the real arbiters of the great body politic of society. And think of the social power we even now wield. Neither the preacher nor the prize fighter, neither the school girl nor her grandfather, neither the college boy nor his mother, neither the banker nor the gambler, neither the lawyer nor the laborer, the soldier or the sailor can boast of freedom from the doctor's dictum. The army and navy of every civilized country are dependent for their efficiency and perpetuity upon their surgeons' examinations. No immigrant may enter this broad, fertile, sunlit land of ours till the stamp of medical approval rests upon him.

We usher, with gentlest hand and warmest heart, our fellow man into this joyous life, and we lead him tenderly, affectionately, regretfully down the valley of the shadow of death; the first to greet and the last to take leave. And while walking beside him from cradle to grave, we warn him of, and lead him by, the pitfalls of disease and suffering, mental and physical.

This we are to do, not only for the individual, but for the public. The writer expects to see the day when the laws of the states shall provide that one chair in every council, commission and legislative body be filled by a medical man. The people will demand this and the law will give it; we have only to stay awake and be aggressive.

The architect of to-day does not plan a building without its sanitary arrangements being approved by medical science. Does the great steamship, throbbing with life and energy, fearlessly riding the wave, outliving the gale, dare to enter or leave port without having its bill of health viséed by the medical man? The immense life insurance companies, the most successful corporations the commercial world has ever seen, are entirely dependent for their very existence upon the diagnostic and prognostic skill of their medical examiners.

Did you ever feel totally unworthy of the power that you wield? No? Then you have never had to sit in the sacred privacy of your office and tell a well-beloved friend, "Your business days are over, you are far gone in diabetes;" or to another, "Steps in your family's behalf must be taken, for you are paretic." Those things make evil days for the tender-hearted doctor; but, brother physicians, when these evils come, think neither of friendship nor of friend, but remember only what is best for those to be left behind, the widow and babes, the relations and last but not least, the public. Harden your hearts unto all save duty.

A thousand years ago the leper and him who was stricken by a plague were shunned of man and beast, outcasted, stoned. A hundred years ago the insane rattled their chains in noisome cells, with vermin for sole companionship. (Blessed be the memory of Dorothea Dix.) Our fathers saw hospital gangrene work its loathsome will undisturbed. We ourselves have seen diphtheria kill in its own peculiarly horrible way while we stood helpless by. In those days, too, our power and influence were less than to-day, when almost every disease has been made to come forth and stand in the brilliant sunlight of scientific research. And as we become more and more the master of disease, we stand nearer and nearer to the mastery of the patient and through him the family and society at large.

The true physician is ever a man of the greatest influence. His education, training, ways of

thinking, broad views, non-sectarian and non-partisan feeling make him a marked man in his community. He is a veritable Abou Ben Adhem; that sweet dream of peace and its awakening are his. He loves his fellow man regardless of color, creed, kith or kin. He is in turn beloved by every one; even the mothers in Israel drop their knitting to smile on him as he passes. And parents lead their children to him to have their futures forecasted, to have them gauged and placed in life's line of battle.

And here, gentlemen, our greatest greatness in the near future will lie. Not in dictating business ventures for the grown-up people, but in strengthening and shaping the body and mind of the baby in the cradle, the boy in school, the girl in college and both entering life's work. It is ours to read the physical index and decide how far the body may be depended upon with and without our help. And ours it also is to note the mental gauge and determine its strength and weakness, its shadows and sunbeams, its stability and variability and the directions of its roving, and finally to guide it into paths whose stepping stones across life's quagmires are best suited to its stride.

Could we ask for firmer standing ground or a longer lever with which to move the world?—Edgar J. Spratling in *Jour. A. M. A.*

MICROBES ON THE BRAIN.—As he shaved himself he absolutely wondered what noxious disease germs lurked on the edge of his razor.

He looked suspiciously at his scarlet tie, and decided not to wear it, as the color might attract miscellaneous bacilli, who would otherwise pass him by.

He opened his breakfast eggs nervously. There was no knowing, should they be bad, what microbes would escape when the shell was removed.

He scanned his newspaper anxiously, wondering if printers' ink were a medium for transmitting disease germs. Books, he knew, were, and had long since given up reading them.

He cautiously scanned the appearance and clothes of the people next to him in the 'bus, an elderly city gentleman and a schoolmistress, and seeing that neither were marked with smallpox, nor appeared to have come from an infected area, felt reassured.

On entering a leading thoroughfare, which he knew was near the infected area, he turned up his coat collar, rammed down his hat on his head, and furiously smoked a pipe. He did not know whether or not the street was teeming with smallpox microbes, but was determined if there were any about, they wouldn't stand much of a chance with him.

As he ate his meals, his mind wandered into the probable past history of the soup, fish, joints, and sweets he devoured, wondering whether in their preparation care had been observed to keep the materials from the possibility of infection.

He perfumed his office with four distinct kinds of disinfectants, and dismissed two of his clerks on the grounds that their vaccination did not appear to be capable of taking.

He went to sleep at night and dreamt of germs, microbes, bacilli, which, in legions, swarmed round him, and finally carried him off through a score of different diseases, and at last had to be sent to an asylum under the delusion that he himself was a smallpox germ.

And all this was the fatal result of gaining a little knowledge of bacteria from people who had read all about them in the press.—*Kan. City Med. Index and Lancet.*

RELIEVES NERVE TENSION

It is stated by the Dad Chemical Company, of New York, that "Neurilla should be given in teaspoonful doses every three or four hours in all fevers, as it relieves nerve-tension, and conserves the vitality and strength of the patients."

NERVE STIMULANT AND TONIC

"Celerina," states the Rio Chemical Company, of New York, "is indicated in all forms of exhaustion, mental inertia, and senile weakness. It is a powerful stimulant without the depressing after-effects of alcohol, caffeine, nitroglycerin, etc., and is also a reliable nerve tonic. The dose is one or two teaspoonfuls three times a day. A sample bottle will be sent free to any physician who will pay express charges."

"ARE YOU IN PAIN?"

In an article in the *Boston Medical and Surgical Reporter*, by Hugo Engel, A.M., M.D., states the Antikamnia Chemical Company, the author says: "Antikamnia has become a favorite with many members of the profession. It is very reliable in all kinds of pain, and as quickly acting as a hypodermic injection of morphia. It is used only internally. To stop pain one 5-grain tablet is administered at once; ten minutes later the same dose is repeated, and if necessary, a third dose given ten minutes after the second. In 92 per cent. of all cases it immediately stops the pain."

FARADIC AND GALVANIC BATTERY

Percy G. Williams advertises in this issue his combined faradic and galvanic battery, one of his new output, which is operated by nine dry cells, no acids or liquids being required.

The battery is said to be first-class in every respect and to meet the requirements of the general practitioner.

The price of battery is \$20, and for a limited time a discount of 25 per cent. will be allowed to physicians.

ABBOTT'S SALINE LAXATIVE

"There has never been a time in all the mutations, advances, and various schools of medicine when the initial necessity of clearing out the bowels before further medication of any ailment was not acknowledged and practiced," states The Abbott Alkaloidal Company. "It is more so, however, at the present time when microbic mischief and antiseptic microbicide is better understood. But we do not need a drastic cathartic which will leave the bowels semi-paralyzed and so prepared for another microbic evasion. What we need is Abbott's Saline Laxative, which clears out the bowels once or twice, and is done with it for the time. Even a toothache may be stopped by this laxative if it depends upon foul bowels."

SUPERIOR FOOD FOR INFANTS

"This Denver physician's experience," states the manufacturers of the Food referred to below, "is the same as a good many others:

"A child, thirteen months old, teething, had for some time suffered with a very watery, greenish diarrhea; bowels full, hot, and gurgling continually; head rolling, eyes half closed in sleep, hands and feet cold, and frequent straining to vomit. Could retain no food, neither mother's or fresh cow's milk; pulse 120, feeble; head bathed in cold perspiration, bowels evacuated twelve to eighteen times in twenty-four hours. I began using Eskay's Albumenized Food in tea-

spoonful doses hourly; it was retained and amount increased until about second day, when about half meals were given every three hours. I had no more vomiting. The child is now well and in excellent health and flesh."

A prominent New England physician states: "For the past twenty years it has been my habit in infant feeding to use 1 part cream to 7 parts of sterilized water, adding sugar of milk, q.s. to taste. This was by far superior to anything I could obtain until I began using Eskay's Albumenized Food, which, added to cow's milk, obviates the necessity of extemporizing as formerly. I have never seen children thrive better than when feeding was restricted to Eskay's Food alone. Nothing more seemed to be required."

ANOTHER HISTORIC REMINGTON

Another addition to the family of "historic" Remington Typewriters is now on exhibition in the window of the Remington Typewriter Company at 100 Gracechurch Street, London. It is the machine which wrote the terms of peace between the British and the Boers which were signed by Lord Kitchener, Lord Milner, and the Boer delegates.

In connection with this same Anglo-Boer War, Lord Roberts had with him continually, both in his headquarters and in the field, an equipment of Remington Typewriters, on which all his orders were written and all his writing was done, and these Remingtons rendered the same service to his successor, Lord Kitchener.

To go a little further back to our own war with Spain, it will be remembered that the Remington Typewriter wrote the Articles of Capitulation at Santiago, the Articles of Capitulation at Manila, and, finally, the Articles of Peace at Paris. The writing machine has become a necessity everywhere: in war as well as in peace. But it is in the actual writing of the terms of peace that it has won its greatest fame.

"IN MEDICINA QUALITAS PRIMA EST"

All the preparations of Wm. R. Warner & Co. are known for excellence of quality, accuracy, and uniformity of composition. The effervescent Lithia Water Tablets furnished by this firm offer a ready and effective method of introducing lithia into the system for the relief of the many disorders in which that remedy is of conspicuous service. The tablets are made in two strengths, one containing 3 and the other 5 grains.

Lithia Water Tablets promote the activity of the kidneys, increase the elimination of urea, and convert uric acid into a soluble form. These properties are an indication of their value in practical medicine. Their chief applicability is in gout and lithemic conditions. They will often be efficient in saving the kidneys from disorganization and the patient from the agonies produced by the passage of a calculus. By an analogous action they obviate the formation of stone in the bladder and alleviate inflammation of that organ. These tablets are, moreover, of much service in rheumatic conditions, both articular and muscular. In the subjects of gout and rheumatism they improve digestive power, and therefore tend to remove some of the causes of the various forms of mischief which those conditions are capable of producing throughout the body.

Warner's Effervescent Lithia Water Tablets are likewise useful in Bright's disease, acting as a diuretic and reducing albuminuria. In this manner they prevent the accumulation of toxic products.—"Monthly Cyclopedia of Practical Medicine."

Preparation—Par Excellence

“Fellows’

Syrup of Hypophosphites”

∴ ∴ CONTAINS ∴ ∴

Hypophosphites of

| | |
|-------------|------------|
| Iron, | Lime, |
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| Strychnine, | Potash. |

Each fluid drachm contains Hypophosphite of Strychnine equal to 1-64th grain of pure Strychnine.

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in Anaemia, Bronchitis, Phthisis, Influenza, Neurasthenia, and during Convalescence after exhausting diseases.

Dr. Milner Fothergill wrote: “It (Fellows’ Hypophosphites) is a good all-round tonic, specially indicated where there is NERVOUS EXHAUSTION.”

SPECIAL NOTE.—Fellows’ Hypophosphites is *Never sold in Bulk*, and is advertised only to the Medical Profession. Physicians are cautioned against worthless substitutes. : : : : :

Medical letters may be addressed to

MR. FELLOWS, 26 Christopher St., New York.

LITERATURE OF VALUE UPON APPLICATION.

MERCK'S ARCHIVES

A JOURNAL OF MATERIA MEDICA AND THERAPEUTICS

FOR THE GENERAL PRACTITIONER

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Vol. IV

OCTOBER, 1902

No. 10

Should Fever Be Treated?

IN the entire domain of practical therapeutics there is no question of more momentous importance than the above. Fever or elevation of temperature is an accompaniment of by far the largest number of diseases, and it is evident that an answer to the above question must have an important bearing on the treatment of most diseases.

While we now consider fever a symptom of disease, and not as a morbid entity *per se*, the case was different in days gone by. From the days of Hippocrates fever was considered the most important disease—of course, many diseases which we now recognize as distinct entities were at that time classed under the one term fever—and all the endeavors of the physician consisted in reducing the fever, in lowering the temperature. Unfortunately that same notion still exists among the greater part of the laity, and the skill of a physician is considered by many proportionate to his ability to bring down the temperature.

Physicians practicing among the poor and ignorant complain that they are compelled to give antipyretics against their better judgment. They have got to do it or quit practicing. If a physician be called in to a case with high temperature, and, recognizing that temperature is a natural phenomenon of that disease and must not be interfered with, he should fail to prescribe anything to lower it, his services would be dispensed with, and the case would be given

into the charge of a more pliable and diplomatic physician.

But should fever ever be treated, or should it always be left alone? We have said above that fever is now considered a disease symptom and not a disease *per se*, and we are therefore at once confronted with the medical aphorism: Treat the cause and not the symptom. Unfortunately, this aphorism, which sounds so well and seems so full of wisdom, is frequently utterly worthless in practice. It is valueless in practical application for two reasons: first, because we cannot always reach the original cause of disease, or, if we can, it is beyond our control; and, second—and this is an important point—a symptom of a disease may in itself, unless relieved, prove dangerous to life, or, if not directly dangerous, it may cause other symptoms which may prove highly detrimental or even fatal. And as a matter of fact, in practice we are constantly obliged to treat symptoms, while, of course, not neglecting the original cause if we can get at it. When we give chloroform to a patient suffering with opisthotonic convulsions, we do not treat the cause of the disease; but the convulsion (a symptom), may become so dangerous as directly to destroy life, and we therefore strain all our energies towards relieving that symptom. When we perform tracheotomy or intubation on a diphtheritic child we surely do not treat the cause of the disease. We tempo-

rarily relieve the symptom which may cause death by suffocation, while we counteract the toxin of the poison by antitoxin and other means. And so with fever. Though admittedly a symptom of disease, it may in its turn cause changes more dangerous than the original *causa morbi*.

The chief result of high temperature is parenchymatous degeneration of the muscles and other organs. More than thirty years ago Ivashkevitch showed experimentally that in rabbits and dogs the heart and liver lost weight under an artificially elevated temperature, the individual elements of the tissues undergoing a more or less pronounced cloudy degeneration. Wickham Legg experimented with rabbits and guinea-pigs. He killed them by a gradual elevation of temperature, and an examination showed distinct beginnings of parenchymatous degeneration.

Liebermeister was of the distinct opinion that many of the lesions in typhoid fever, for instance, are due directly to the high temperature. He says: ". . . Here belong in the first place those disturbances of function which are directly due to the elevation of temperature, without any appreciable material changes having necessarily preceded them; and, in the next place, the parenchymatous degeneration of various organs with the functional lesions due to this degeneration. Thus, for example, the increased frequency of the heart's action is directly due to the elevation of the temperature, while the feebleness and paralysis of the heart, which occur later, are less immediately due to this cause, but are still in part dependent upon the degeneration produced by it (the temperature)."

But high fever produces not only muscular mischief. According to Liebermeister and others, it also produces degeneration of brain and nerve tissue, and this degeneration is in its turn the cause of the delirium and other disturbances of the central nervous system, which we so often see in diseases accompanied by high temperature. That these disturbances are due to a real degeneration of nervous tissue is shown by the fact that they frequently persist for a very long time after the disease has run its

course and convalescence has been established. Whether Zenker's degeneration—a degenerative metamorphosis in which the muscular fibers lose their transverse striations and become converted into homogeneous waxy masses—is due, as Zenker thought, to high temperature alone, or to that plus other influences, is an open question. But, leaving aside all experimental evidence, which is sometimes misleading, and the *ipse dixit* of authorities, which later investigations frequently prove to be wrong, what physician has not noticed the remarkable effect of a reduction of the temperature, artificially induced, in cases of serious pyrexia and hyperpyrexia? Who has not seen a delirious, restless patient, with dry, hot skin, parched lips, dry mouth and cracked tongue, break out into a perspiration under the influence of an antipyretic drug or measure; become quiet, and fall into a peaceful slumber, from which he awakes much strengthened and refreshed, the disease thenceforward pursuing a milder course? In résumé the following statements are justified:

(1) Fever, or elevation of temperature, is a symptom of disease, and not a disease *per se*.

(2) Though but a symptom, it may, after reaching a certain degree, produce in its turn great functional disturbances or even organic changes, and thus prove directly or indirectly the cause of death or of great permanent physical and mental injury.

(3) When the pyrexia is of a mild character—say, between 100° and 102° F.—it should generally be let alone.

(4) A temperature between 103° and 105° F. should generally, and a temperature above 105° F. should *always*, be treated—treated watchfully, carefully, but energetically.

(5) Antipyresis may not only obviate the bad results due directly to the fever, but it may have a good effect on the course of the original disease.

As to how fever should be treated—whether by hydrotherapy, coal-tar antipyretics, refrigerants or cardiac depressants—that, as Rudyard Kipling says, is another story.

[Written for MERCK'S ARCHIVES]

SOME METHODS AND COMBINATIONS WHICH HAVE PROVED PARTICULARLY VALUABLE IN MY PERSONAL EXPERIENCE¹

By William J. Robinson, M.D., New York

Member of the American Medical Association; of the New York State Medical Association; of the New York County Medical Society; of the German Medical Society; of the Harlem Medical Association, etc.

Parametritis, a term not as much in favor now as it was twenty or thirty years ago, is a congestion or inflammation around the uterus. The tissue affected is the cellular or areolar tissue lying behind and on the sides of the uterus and extending into the broad ligaments. It is also known under the terms *perimetritis*, *pelvic cellulitis*, and inflammation of the broad ligaments. I wish to speak here of *parametritis* of medium or moderate severity; that is, that kind which is not accompanied by any temperature—or, at most, by a temperature of 99.2°—or severe pain. The symptoms consist of a rather uncomfortable feeling, heaviness and dragging down. Pain is elicited only on pressure. On vaginal examination, the posterior cul de sac feels swollen and baggy. The pain is moderate. If on touching the ovary exquisite pain is elicited, then we have already to do with an *ovaritis*. The treatment of the condition just described is almost always followed by a cure, provided it is carried out faithfully, persistently, and according to modern methods. *Parametritis* resulting in a pelvic abscess and demanding surgical interference is now seen not nearly as frequently as it was years ago.

My treatment of *parametritis* is as follows: A hot douche is ordered night and morning. But right here some explanation is required. To tell a woman to take a douche without going into minute details as to the temperature of the liquid, the amount to be used, the method of employment, etc., means to subject the woman to labor and annoyance, without any corresponding benefit, or even with definite harm. Because one thing we must remember: an improper douche is a harmful procedure. The conditions for a proper douche are as follows: The temperature of the liquid should be *not below* 110° F., preferably 115°. It may be as high as 120°, but this temperature is objected to by some patients; the quantity should be not less than 4 quarts, preferably 6 quarts, and the woman should lie on her back while taking the douche. A large tin douche-pan (they are now sold at a very low price) should be under her but-

tocks, and the outlet of the douche-pan should be connected with a piece of rubber tubing leading into a pail at the foot of the bed. Thus the douche can be taken by the woman herself, without anybody's aid. This is an important point, because not everybody can afford the expense of a nurse. The liquid for the douche may be pure water, or two tablespoonfuls of borax may be added to each douche, or, still better, 2 drams of potassium iodide. I do not know whether this addition is original with me or not, but I have found it to be a distinct advantage. It seems to contribute in a certain measure to absorption of the exudate. About ten minutes after the douche the patient herself introduces into the vagina a small cotton tampon, which has been soaked in the following solution:

| | |
|------------------------------------|-------------|
| Ichthyol..... | 3 j |
| Glyceriti Boroglycerini U.S.P..... | 3 ij |
| Glyceriti Hydrastis U.S.P. | ss |
| (or Lloyd's Colorless Hydrastis) | |
| Glycerini..... | 3 iij |

Where, as not infrequently happens, the *parametritis* is accompanied by some prolapsus uteri, or where the sensation of dragging down is very pronounced, thus showing a great relaxation of the tissues, the following solution is to be used:

| | |
|-------------------------------|------------|
| Ichthyol..... | 3 j |
| Glyceriti Ac. Tannici..... | 3 j |
| Glyceriti Boroglycerini | 3 ij |
| Glycerini, q. s. ad..... | 3 iv |

The tampon should be left in for about ten or twelve hours; it should have a string tied around it for easy withdrawal. So much for local home-treatment.

The patient must besides be seen by a physician twice, or at least once, a week. He paints the entire vagina, but especially the posterior cul de sac and the sides, with Churchill's tincture of iodine, or Lugol's solution, or, still better, with the following solution:

| | |
|----------------------|-------------|
| Iodi..... | 3 j |
| Potassii Iodidi..... | 3 iij |
| Alcohol..... | 3 iv |
| Glycerini, ad..... | 3 iv |

After painting with this solution, he inserts a large gauze tampon—about 2 yards long and 2 inches wide—soaked either in the before-mentioned ichthyol-boroglycerin-hydrastis or in the ichthyol-boroglycerin-tannin solution. This tampon may be left in for twenty-four hours.

The general treatment is very simple: As much rest in the recumbent posture as possible, and attention to the enunctories, especially the bowels, because constipation exerts a very baneful effect on the course of *parametritis*. Under this treatment every case of uncomplicated *parametritis* should

¹ See MERCK'S ARCHIVES, April, 1902.

be completely cured, or be well on the way towards a cure in one to two months. Of course, this does not apply to cases which come under treatment in the stage of supuration. There we must follow the old maxim: *Ubi pus, evacua*. Incision under thorough antiseptic precautions and drainage is the only treatment.

Cystitis.—This disease, if the various degrees of bladder affection, from irritation to congestion and true inflammation, be understood under the term, is very common. It is not fashionable to consider cold as an etiological factor in disease, the bacteria being considered as the prime factor; but I believe that cold, or sudden chilling of the body, or wetting the feet, is a very important and very prolific cause of disease, now as much so as before the microscope revealed bacteria to our gaze. In women especially, I have seen frequently a cold or wetting of the feet followed in a few hours by an acute cystitis. The symptom that compels the patient to apply to the physician is the dysuria, which is sometimes exceedingly painful. The desire to pass water is sometimes felt imperatively as often as every five minutes. I have seen the pain so excruciating, during the passage of the last few drops of urine, as to put the patient into a cold sweat and make him or her deathly pale and nauseous; in some cases a convulsion was on the point of supervening. The urine itself is very scanty, frequently but a few drops, is of dark color, and occasionally with an admixture of blood. Instead of frequent micturition we may have complete retention, and then the condition is, if anything, more distressing and soon becomes unbearable. The general condition may be but slightly affected, and then again there may be fever, anorexia, restlessness, etc. Depression of spirits or melancholy may be a prominent symptom.

Distressing as the acute symptoms of acute cystitis are, there is one redeeming feature: they can be quickly and positively jugulated. An abatement of the severity of the symptoms may be promised within an hour or two, while a cure may be effected even in very severe cases—provided they are of simple origin, and not of a traumatic or gonorrheal character—in from forty-eight to seventy-two hours. Mild or moderate cases may be cured without any drugs—rest, and lots of flaxseed infusion. By lots, I mean 4 or 5 quarts a day. The patient prepares the infusion himself by macerating the whole flaxseed, a handful to a quart of water, straining, and adding a little lemon juice. This latter improves the

taste considerably, takes out the flatness, and prevents nausea. Severer cases require more positive treatment. The following mixture is excellent:

| | |
|-------------------------|--------|
| Potassii Citratis..... | 3 v |
| Potassii Bicarb..... | 3 v |
| Ext. Hyoscyami Fl..... | 3 iss |
| Spir. Menthe Piper..... | 3 iiss |
| Syr. Limonis..... | 3 ij |
| Infus. Lin (5%) ad..... | 3 xvj |

Tablespoonful in a gobletful of water every hour, until improvement has taken place; then every two, three or four hours according to severity of symptoms.

Oil of santal in 5-min. doses every two hours is also very soothing. At the same time the following suppositories are ordered, one every two to eight hours, according to urgency of symptoms and the improvement noticed:

| | |
|----------------------|--------------------|
| Morphinæ Sulph..... | grn. $\frac{1}{8}$ |
| Ext. Belladonnæ..... | grn. $\frac{1}{4}$ |
| Ol. Theobromæ..... | grn. xv |

Cloths wrung out of very hot water or a hot-water bag applied to the suprapubic region is a very useful procedure, relieving the tenesmus very materially. The application of cold cloths or an ice-bag, recommended by some, is in my opinion very objectionable, because I have seen a very distinct aggravation of all the symptoms follow such a procedure.

If we are called to a case with complete retention, and the tension symptoms are so severe that the patient cannot wait, we must, of course, proceed to catheterize; but where the symptoms are not so urgent, we had better use simpler measures. Catheterization is at all times an evil and is to be resorted to only in emergencies. A simple measure for starting the flow of urine consists in the alternate application of hot and cold cloths. Another method consists of injecting into the rectum a pint or a quart of hot water. This frequently relieves the spasm and the flow of urine starts simultaneously with the return of the water from the rectum. This little procedure is a very valuable one and can be used with equal success in retentio urinæ from other causes, like that, for instance, following a difficult or instrumental labor. In such cases catheterization is bad on account of the possibility of infection, and is difficult of accomplishment where the parts are much swollen. This little procedure is therefore very handy, and bears the stamp of approval of many a practitioner whose attention I have brought to it.

Subacute and Chronic Cystitis.—It is the course of many disorders that they commence slowly and insidiously, and without any severe symptoms. In other words, it

would be a blessing for the patient if all diseases having a tendency to become chronic commenced with severe, acute symptoms, especially with a good deal of pain. Medical aid would then be appealed to at once, and in many cases the chronic course would be prevented. The reason why chronic cystitis, chronic gastritis, etc., are so often neglected, is because the initial symptoms are not acute enough to demand immediate relief. The principal symptoms are an uncomfortable feeling in the region of the bladder—a heaviness, dragging down, uneasiness—frequent micturition of small quantities of urine, the passing of the last few drops being accompanied by some burning and tenesmus. The urine itself gives us the best clue to the condition: it is small in amount (on account of the frequent micturition), cloudy or turbid, and deposits on standing a more or less abundant muco-purulent sediment. This is characteristic. The odor may not be much changed, but if the reaction of the urine be alkaline, the odor is generally very offensive. Where the alkaline fermentation is very pronounced, the urine may present a thick, ropy appearance. But if the urine has not yet reached the stage of "ropiness," the latter condition may be produced in cystitic urine by shaking it with ammonia-water. This is a pretty good test for cystitic urine.

We physicians of the present day have a great advantage in treating cystitis over physicians of former days, because we possess a most remarkable and certain urinary bactericide, unknown even a decade ago. I refer here to hexamethylene-tetramine. There are few of the newer drugs about which such unanimity of opinion exists. Even Professor Osler, our best clinician and most pronounced therapeutic skeptic, recognizes the drug as a most valuable addition to our materia medica and advises its use as a urinary antiseptic in various diseases. The drug was first introduced to the profession by Bardet under the name *formin*, but its real popularity is due to Nicolaier, who named it *urotropin*. The drug is also manufactured by different firms under various names, such as *aminoform*, *cystamine*, *cystogen*, etc. I have no experience with the last-named brands and cannot speak of their purity, but I have had considerable experience with *urotropin* and *formin* and can vouch for their purity. *No case of subacute or chronic cystitis with a muco-purulent sediment in the urine is treated properly if hexamethylene-tetramine (urotropin or formin) does not enter into the treatment.* Not only does the drug

clear up the urine in a surprisingly short time, but it prevents the upward extension of the infection into the ureters and pelvis of the kidneys. I prescribe the *formin* either plain—5 grm. in a glass of water three or four times a day, or dissolved in a cupful of freshly prepared infusion of flaxseed. The latter vehicle becomes indispensable when there is great vesical irritability. The following is an excellent mixture:

| | | |
|--------------------|-------|--------|
| Formin | ..... | ℥ iiss |
| Potassii Citratis | ..... | 3 v |
| Potassii Bromidi | ..... | ℥ iiss |
| Tinct. Hyoscyami | ..... | ℥ i |
| Ext. Tritici Fl. | ..... | i ss |
| Glycerini | ..... | ss |
| Syr. Rubi Idæi, ad | ..... | ℥ viij |

Dessertspoonful (2 drams) in glassful of water, three times a day.

This mixture allays vesical spasm, diminishes the desire to frequent micturition, and clears up the cloudy urine more quickly than any other mixture with which I am familiar. I do not think salol and boric acid come anywhere near hexamethylene tetramine as a urinary antiseptic.

In obstinate cases of cystitis irrigations of the bladder may be indispensable, and for this purpose the milder the solution the better. I consider a 2-per cent. solution of boric acid or a $\frac{1}{10}$ -per-cent. (1:1000) solution of potassium permanganate the best. The solution should *always* be warm, and a double-current catheter is the best.

Gonorrhea.—I have no intention of entering here into the discussion of the treatment of specific urethritis. I merely wish to state that in my opinion no case of gonorrhea is treated correctly if the patient is not ordered to take *formin* or *urotropin* in addition to any other treatment he may receive. It is not as an antigonorrheal that it is valuable, but it is valuable on account of its marked properties as a urinary sterilizer; it prevents the extension of the gonorrheal process into the posterior urethra, prostate, and bladder. I have been giving the drug for the past eighteen months to every case of gonorrhea—acute, subacute, or chronic; primary or secondary—and in no case was there any posterior extension, if the patient had been taken in charge when the gonorrheal process was localized in the anterior urethra. Patients who can stand the ordinary Lafayette mixture may take the *formin* dissolved in that mixture, or it may be given separately dissolved in water, or may be given in the following capsules:

| | | |
|--------------------------|-------|-----------|
| Ol. Santali Optimi | ..... | ℥ v |
| Ol. Terebinthinæ Rectif. | ..... | ℥ ij |
| Ol. Cinnamomi | ..... | ℥ ss |
| Formini | ..... | grm. iiss |

Misce fiat caps. No. 1.

One capsule every three to six hours.

It is well known that gonorrhea *per se* is not such a serious disease; it is the sequelæ and complications that make it formidable. I believe that in hexamethylene-tetramine we possess a remedy capable of obviating a large number of those sequelæ and complications.

119 East 128th street

[Written for MERCK'S ARCHIVES]

CHEMICAL MEANS FOR THE PREVENTION OF BED-SORES

By J. Dabney Palmer, M.A., M.D., Monticello, Fla.

WHILE chemistry furnishes the physician with many valuable therapeutic agents, and showers upon him her wonderful discoveries, she also affords him means for the prevention of disease, and enables him, by the immutability of her laws, to repose with perfect confidence on all her reactions. She tells him that acids combine with alkalies and form salts; that sulphuric acid, for instance, combines with ammonia and forms the non-volatile, unirritating ammonium sulphate, and points to its utility in clinical practice. He sees that here he has a means of fixing the ammonia given off from decomposing urine, and of preventing its irritating action on the skin.

Although bed-sores are commonly supposed to arise from the pressure of the sacrum and other prominent parts in the long recumbent posture, they are in the majority of cases caused by the irritating quality of the urine with which the clothes of the patient and of his bed become moistened, and the urine, being rapidly decomposed, excoriates the skin by the ammonia disengaged and leads to the formation of bed-sores.

With this in mind, the physician who would protect his patient from bed-sores will find the following a valuable method for so doing. He will have a case made of soft linen large enough for the buttocks of the patient, when lying on his back, to rest upon, and extending a little way down the thighs and on each side. Then he will stuff this case with bran (previously sprinkled with dilute sulphuric acid) to such a degree as to make an easy cushion, which receives the urine as it dribbles from the patient, the ammonia of which is absorbed and neutralized by the sulphuric acid and the skin left uninjured. The dilute sulphuric acid is that of the U.S. Pharmacopœia, made by gradually adding 100 Gm. (3½ oz.) of sulphuric acid to 825 Gm. (1¾ pints) of distilled water, and the proper portion is 2 oz. of the dilute acid to 1 quart of bran. This quantity will not wet the case of the cushion, but only make the bran

feel slightly moist. It should be renewed every other day.

Another valuable chemical means for the prevention of bed-sores is tannic acid. This substance forms with the gelatin of the skin an insoluble compound which, rendering the skin tough and leatherlike, protects it against the injurious effects of long-continued pressure. Here the physician is armed with a method drawn from the service of chemistry in the arts, where the value of tannic acid in precipitating albumin, gluten and gelatin, normal constituents of the skin, has long been appreciated and utilized in the manufacture of leather. But, to be effectual as a preventive of bed-sores the tannic acid must be perfectly fresh, dissolved in cold water, the solution saturated (600 grn. of tannic acid to 1 oz. of water), recently made, and applied before the skin breaks. The theory of its action is that it combines with the gelatin of the skin, forming a contracted, impermeable layer of tannate of gelatin; in short, tanning or converting into leather the superficial layer of cuticle.

By these two means, the one acting directly upon the urine itself and the other upon the skin, the physician can effectually prevent the deleterious effects of the urine in excoriating the skin and producing extensive and sloughing sores, which are often most difficult to manage, and tend to exhaust the vitality of the patient.

DIGITALIS AND ACONITE IN THE TREATMENT OF CARDIAC DISEASE¹

By H. A. Hare, M.D.,

Professor of Therapeutics in the Jefferson Medical College of Philadelphia

AMONG all the difficulties which have beset the subject of the proper use of drugs in disease, and there have been many, as we all know, it cannot be doubted that the factor of greatest importance has been the employment of remedies by physicians without their having a correct conception, and sometimes no conception at all, of the pathological process underlying the condition which is to be relieved. This depends upon the fact that many practitioners lack preliminary training not only in morbid anatomy and morbid physiology or pathology, but also fail to study the possible effect of well-known drugs in abnormal states. The employment of certain remedies in disease has cast discredit upon therapeutics by their abuse, while many physicians who have carefully studied diseased organs become so saturated, so to speak, with the seriousness

¹ Abstracted from *Therap. Gazette*, August 15, 1902.

of the lesions which they find, that they scoff at the thought that drugs can be of service, forgetting that the vital powers are eliminated at the autopsy, and that the conditions present represent a state so grave that death has taken place—that is, the worst possible state of affairs is seen. In no class of cases does what I have said hold true with greater force than in those of cardiac disease. Some physicians are content to diagnose valvular disease, prescribe digitalis, and ignore the state of the heart muscle, the state of the blood-vessels and that of the kidneys, liver, and even the dose of the drug, so long as it is within bounds not poisonous.

It has always seemed to me that it is the duty of the physician to study the condition of the heart muscle, and almost entirely exclude any suppositions as to the condition of the valves of the heart. While this may be an exaggerated way of making the statement which I wish to emphasize, it is resorted to because in the majority of instances we are apt to endeavor to decide which segment is diseased without a correspondingly careful study of the condition of the ventricular wall.

Again, it is by no means an uncommon practice of physicians, after determining more or less carefully the condition of the heart, to fail to make a careful study of arterial tension, pulse force, and equally important, to attempt to discover whether there is arteriocardial fibrosis. Upon the condition of the heart muscle, and upon the development of arteriocardial fibrosis, much more depends in the diagnosis, prognosis, and treatment of a case of so-called cardiac disease than is usually thought. It is also not permissible to reach correct conclusions in regard to these important factors in the case unless at the same time the renal condition is adequately investigated. And, again, it is not sufficient in many of these cases to be content with one or two examinations of the urine, which may fail to reveal albumin, unless at the same time estimations of urea are also made, and a careful record of the quantity of urine and of its specific gravity is kept. Not only do these renal conditions aid us in getting information concerning the probable conditions of the heart muscle and of the blood-vessels, but they also give us an insight into the ability of the kidneys to eliminate poisonous materials and the drugs themselves, both of which, if retained to an abnormal degree, produce results which are disadvantageous.

Digitalis, like iron, has proved itself so valuable, doing good in so many instances

which seemed grave, that we are wont to forget that, like most things which do good, it can also do harm, and judging from my previous habit, and from the habit of other practitioners, I am convinced that in the great majority of instances digitalis is administered in doses which are much too large, and often continued over a period which is far too long. It is by no means an uncommon thing to find physicians administering as much as 10 or even 20 min. of tincture of digitalis three or four times a day in cases of marked rupture of compensation. There can be no doubt that in some cases such doses are necessary at the beginning of the treatment to meet the crisis which exists, and in much the same way that we are wont to give large doses of mercury in early syphilis, afterward cutting the doses down one-half, so it may be necessary at times to give massive doses of digitalis which, after a period, should be rapidly and considerably diminished. I have been surprised to find what excellent results I could produce by the use of such small amounts as 1 or 2 min. of an active physiologically tested tincture of digitalis given three or four times a day, the patient being of course required to rest and so give his heart that most needed therapeutic aid when its compensation is ruptured.

Apropos of this, I may add that in my belief we often fail to get results from doses and from drugs upon which we rely, more because we are careless as to the physiological activity of the product than because we have made an error in judgment as to the remedy which is needed, or the dose which is required. In deciding what cardiac stimulant is required in a given case, we must not only consider the condition of the valves and the myocardium as already indicated, but we must, if possible, reach some conclusion in regard to the state of the coronary arteries. Digitalis, which improves the nutrition of the heart, largely by improving the circulation in these arteries, can manifestly do more harm than good if these nutritive vessels are so nearly closed that it is impossible for the heart to pump blood through them in increased quantity. And again, the myocardium may have undergone such advanced degeneration that it is impossible for the digitalis to improve the nutrition of the heart, although at the same time it may be driving the remaining healthy fibers to an endeavor far in excess of their ability.

I am also quite sure that in a certain number of cases of valvular disease the patient does not require digitalis or any other cardiac stimulant for the relief of his car-

diac symptoms; but, on the other hand, in addition to rest, will often be greatly benefited by the administration of aconite, which has the same steadying effect upon the heart through its influence on the vagi as has digitalis, while by its sedative influence on the heart muscle in cases of excessive compensation, and by its relaxing effect upon the blood-vessels, it diminishes the overaction of hypertrophy which is sometimes confused with the tumultuous overaction of ruptured compensation. It is much easier for us to conclude, in the case of valvular disease, with dyspnea and disturbed heart-action, that these symptoms are due to a failing heart than that they are due to a hypertrophy and an excessive activity. Such cases I have frequently seen in men who are well developed, in the muscular sense, and whose occupation has caused them to do heavy manual work, or to take part actively in some of the severe athletic games. And not infrequently have I seen other cases in which the use of well-balanced doses of aconite and digitalis have produced results which neither drug could produce by itself, although at first glance they are physiological antagonists.

Finally, the utter uselessness of expecting good results from either of these drugs in the treatment of certain cases of myocardium disease which persistently take severe exercise "for their health" needs to be emphasized. I have repeatedly seen cases of men of advanced years with somewhat fibroid blood-vessels who have mistaken the heaviness of advancing years for the heaviness of lack of exercise, and who in the golf field, on the bicycle, or by rowing or walking, have tried to drive away the symptoms from which they suffer, with a result that sooner or later the condition from which they are suffering becomes greatly aggravated, and they become more or less invalids if they are so fortunate as to escape sudden or nearly immediate death from their ill-judged efforts. It seems to me, too, that when we are attempting to treat such cases, and are endeavoring to administer doses and remedies as accurately as possible, we should insist upon quiet and a careful mode of life until we are able to determine that the remedies suit the case. Otherwise the change of exercise or change in diet may not only prevent the remedies from doing good, but also warp our judgment as to our own plan of treatment, and prevent us from instituting it in another case, when in reality, had proper precautions of this kind been taken, we would have increased confidence and been able to do much good to a large class of patients.

It is not to be forgotten that everybody, sooner or later, according to his years, his inheritance, and his mode of life, develops more or less arteriocapillary fibrosis, degeneration of his myocardium, and sclerotic changes in his kidneys.

I may close by saying that curiously enough a very large proportion of the patients to which I have recently referred are physicians who, after a long life of intense nervous strain, not infrequently find themselves at a comparatively early age suffering from disorders of the heart, which they fail to recognize, either because on examining this organ they fail to discover murmurs, or because they do not recognize the fact that a physician's life seems to be peculiarly apt, as is that of the banker and large business manager, to develop degenerative cardiac change.

TREATMENT OF UREMIA¹

By Egbert H. Grandin, M.D.

THE treatment of uremia (or, as the author prefers to call it, mixed toxemia) may be considered to advantage under three headings: The prophylactic—the treatment which aims at warding off toxemia; the emergency treatment—that which is applicable in the presence of toxemia; and, lastly, when pregnancy exists, the surgical treatment.

The *prophylactic* treatment consists in throwing as little strain as possible on the chief emunctories of the body (the kidneys and the intestinal canal), on securing free action of the liver—that organ of the body which furnishes nature's intestinal antiseptic, on promoting activity of the sweat-glands—the organs which, after a subsidiary fashion, relieve both kidneys and the intestinal canal. In short, when the kidneys are spared undue strain, when the intestinal canal (the great sewer) is maintained in action, and when the sweatglands are functioning actively, impending toxemia of the type under consideration may at times be ward off well-nigh indefinitely. The author refers to a sufferer from interstitial nephritis from whom, seven years ago, he removed uterus and fibroids by the suprapubic route, who enjoys good health just so long as she lives along the dietetic and hygienic rules specified, but who develops active gastric and cerebral symptoms of toxemia whenever she deviate from this line. In his experience the prophylactic therapeutics consists in absolute milk diet associated with some form of readily assimilated iron.

¹ Abstracted from *Phila. Med. Jour.*, Sept. 6, 1902.

a Turkish bath at stated intervals, when cardiac complication does not enter as a factor, and the administration of one or another of the drugs which experience teaches us favor the action of the liver, his personal preference being elaterium in small and repeated doses. It goes without saying that, in instances in which the cardiac action gives concern, this should be attended to by that prince of heart-regulators—digitalis. Lastly, plenty of water ingested cleans out the human sewers to great advantage. And the author asserts that the ordinary drinking-water of our cities is as potent as the numerous waters on the market. In short, the prophylactic treatment of toxemia calls for a minimum of drug and a maximum of common sense.

Emergency Treatment.—When toxemia is imminent or active, the same line of therapeutics is demanded, only, as a rule, the drug element enters as a more powerful factor. Our efforts still aim at powerful elimination and often as well at restoration of function. The liver is apt to be clogged, the kidneys insufficient, the intestines torpid and the skin inactive. Great strain is thrown on the heart, and this organ not alone needs support but often depletion. The drugs which are of utility to fulfil the cardinal indications are few in number, and they should be used boldly and yet cautiously. All drugs which tend to whip the kidneys, so to speak, should be avoided. The potassium salts, for instance, are distinct irritants, and yet hold high rank in the therapeutics of many. The nitrites have a deservedly high reputation, and the best form in which to administer them is as nitroglycerin hypodermically. This drug, according to indication, the author pushes fearlessly, to the extent of $\frac{1}{20}$ grn. hypodermically, repeated every fifteen to twenty minutes. The effect being evanescent, we need not fear these apparently excessive doses. The drug dilates the cutaneous vessels and thereby relieves the engorged right heart as well as congestion of other organs. It is a good plan to associate digitalis in the medication, for the reason that it is the most reliable of all drugs for toning up the left heart. Indirectly this diuresis is promoted without the spurring of jaded organs so apt to follow the use of the so-called diuretics. To promote the action of the liver the author prefers a reliable preparation of elaterium, given in $\frac{1}{8}$ grn. doses at intervals. The depressing effect which this drug is said to possess will not be noted when digitalis enters into the treatment at one and the same time. Continuous high, hot saline irrigation of the bowel promotes intestinal ac-

tion and results in profuse diaphoresis, and this, too, without the evil effects which are apt to be associated with jaborandi or its alkaloid, pilocarpine. By continuous irrigation the author means the use of gallons of hot water thrown high into the bowel and allowed to come out. This procedure often should be kept up for hours. By means of measures such as these he kept a woman alive for two hundred and forty hours without securing an ounce of urine and without the development of active toxemia. The case is recorded at the Columbus Hospital, and the anuria followed a hysterectomy for fibroids in a subject of Bright's disease; catheterization of the ureters certified to the fact that the author had not tied these organs.

When toxemia is active, chloroform is one of the sheet-anchors. While the subject is under its influence, the therapeutics outlined above may be followed, the hypodermic method and the rectum being used for the exhibition of the drugs which are of utility. When the pulse is full and bounding the author much prefers venesection to that much-lauded, but in his hands unsatisfactory, drug, veratrum viride. The use of opium he is opposed to, since it defeats our prime aims—derivation and elimination. Opium paralyzes peristalsis and checks secretion and excretion. If it seems wise to use calmative drugs, chloral and sodium bromide by rectum are at our disposal, but the dosage must be large, that is to say, at least 60 grn. of chloral and 120 grn. of the bromide, thrown high into the bowel.

Surgical Treatment.—The one occasion in which surgery enters as an adjunct into the treatment of toxemia is when the phenomena ensue as a complication of pregnancy. Here the best results in the author's hands have been yielded by evacuation of the uterus as rapidly as is consistent with the integrity of the maternal parts. At one and the same time the eliminative treatment should be resorted to and, when the condition of the pulse demands, the uterus having been emptied, the organ should be allowed to relax and the woman to bleed—a form of venesection under the circumstances just as reliable as though the blood were drawn from the arm.

EUQUININE is one of the many new forms of quinine now claiming attention, and in pediatrics especially is useful, requiring from one-fourth to one-half more in dosage than the sulphate, yet being perfectly tasteless, and being easy on the digestive organs. It fully merits its fanciful name.—C. F. WAHRER, M.D., in *Alkaloidal Clinic*.

PUERPERAL ECLAMPSIA *

By Harry Morell, M.D., Litchfield, Minn.

IT is a conceded fact that eclampsia is the most serious and fatal disease to which the pregnant woman is liable; and therefore a consideration of the subject may not be regarded amiss at this time. The writer is extremely sorry that he has nothing original to offer on so well known a topic, but it may be wise and profitable occasionally to review this important subject, and bring out the best methods of treatment.

No marked advance as to its causation has taken place; in fact, with all the recent medical contributions devoted to this disease, there is only a single point as to its etiology that authorities can agree upon, namely, that it is a form of toxemia the nature of which is still undetermined.

In an article of this description it is not necessary nor desirable to go into the many theories that have been advanced as to the various causes which produce the seizures, but rather to take up the subject from a practical and clinical standpoint. Let us consider for a moment the toxemic theory, as the majority of writers at the present time are inclined to the opinion "that the essential cause of the convulsions is a toxemia produced in all probability by a number of different poisons, associated usually with renal insufficiency and albuminuria."¹ The insufficiency of the kidneys is, as a rule, functional in character, causing a deficiency in the normal rate of elimination, allowing of the accumulation of toxins in the blood, thus starting the whole train of symptoms.² Sir Andrew Clarke has described a condition of renal inadequacy due, not to definite changes in the kidneys, but to a deficient elimination through these organs.³ We must not forget that those who have distinct lesions of the kidneys are also liable to develop eclampsia during pregnancy. The writer had one such case occurring in a woman who had an eclamptic seizure when she was advanced between the third and fourth month. Miscarriage took place, and the mother recovered, and at a subsequent pregnancy she was delivered at full term with no symptoms of this nature.

We should remember that the finding of albumin in the urine of a pregnant woman is not always a criterion of an impending attack of eclampsia, for an enlarged uterus may be a temporary cause of albuminuria from the obstruction to the return of venous blood from the kidneys.⁴ It has been stated that one pregnant woman in forty is albu-

minuric, and that of these one out of every four develops eclampsia. Eclampsia without albuminuria is of rare occurrence, there being but one case in ten.⁵ For positive evidence in favor of the toxemic theory, we should naturally look to the blood and urine of the eclamptic patient. Experimenters were misled for some time by the fact that during eclampsia the urine injected into animals was but feebly, if at all, toxic; while, on the contrary, the urine of healthy individuals is often highly toxic to animals. When, however, the blood serum of eclamptics was carefully studied, and a microscopic study of the organs of eclamptic patients showed, as demonstrated by Winkler, multiple emboli as a constant pathological change, it became evident that the toxins of eclampsia cause convulsions, because they are absent from the urine and excretions, and present in the serum of the blood and organs of the body.⁶

This line of reasoning goes to show that the particular toxin or toxins is something which is retained in the body, and does not pass out through the kidneys like albumin. Frerichs⁷ has shown that urea is converted into ammonium carbonate in the blood. This has been questioned by some, but for the present we will accept it. Merletti⁸ demonstrated that ammonium carbonate in solution causes eclampsia and death in animals, whose organs displayed the lesions often found in eclampsia. An opinion would be formed from this that the toxic substance is not albumin, but retention or failure of elimination by the kidneys of urea, or some of the principles of waste, as uric acid, kreatin or some other substance or bacterial poison originating in the organism. S. Marx⁹ accepts this view from the fact that he considers that too much stress is laid upon the significance of albumin in urine of pregnant women. He has seen many women go to term with albuminuria, who have not developed eclamptic attacks. He states that the urea is always found markedly diminished in those so-called toxemias of pregnancy or urinemias, and he considers the value of a regular and methodical estimation of urea of the first importance.

The estimated frequency of eclampsia is about one to 500 pregnancies. According to Bartholow¹⁰ it occurs not oftener than once in 150 labors, but particularly in primiparæ and twin pregnancies. In the majority of cases there are certain premonitory symptoms of the pre-eclamptic state; but exceptionally eclampsia occurs without any warning symptoms whatever, coming on suddenly in the course of pregnancy or labor. Two cases of the writer's developed this way during the second stage of labor.

* Read before the Crow River Valley Medical Society, at Minneapolis. *Northwestern Lancet*, July, 1902.

The cardinal symptoms of an impending attack are as follows: Dizziness, edema of extremities, face, and external genitals, severe headache, visual disorders, and scanty albuminous urine, with a lessened amount of urea. A healthy pregnant woman should pass about 60 oz. of urine daily with a sp. gr. of 1010 to 1016, and the urea should be $1\frac{3}{4}$ to $1\frac{1}{4}$ per cent.,¹¹ or from 20 to 40 Gm. The pregnant woman rarely excretes a normal amount of urea, but less than $\frac{1}{2}$ per cent. demands attention on the part of the physician. A microscopical examination should always be made of the sediment. "The examination of the urine of pregnant women to determine the presence of albumin alone, in the light of modern investigation, is not sufficient properly and scientifically to estimate the approach of dangerous symptoms. For practical purposes the percentage of urea, the specific gravity, and the amount voided must be determined, and even these only serve as a clinical index of the amount of waste products successfully excreted."¹²

It will be convenient in discussing the treatment to consider (1) the prophylactic, (2) eclampsia occurring before labor, and (3) eclampsia during and after labor.

The *prophylactic treatment* includes the general rules of health, as fresh air, out-of-door exercise, avoidance of compression of the waist by constricting bands and corsets, bathing, selection of proper underclothing, and the avoidance of taking cold by draughts, etc. The diet should consist of easily assimilated food, having a small amount of waste. Highly seasoned foods, spices, tea, coffee, alcoholics, veal, pork and potatoes must be forbidden. An abundance of milk and water and, as improvement progresses, small quantities of starches and vegetables, with vegetable oils and butter, may be added. Excretion by the skin is favored by hot baths followed by rest in bed, and, in severe cases, it is recommended that the patient be placed in the Trendelenberg posture, and the colon daily flushed with at least two gallons of salt solution. The medication for the stimulation of the emunctories consists of calomel, which acts upon the liver, alternated with Epsom or Rochelle salts or mineral waters. Iron in some form is highly recommended; probably Basham's mixture is as good as any other.

In *eclampsia occurring before labor* there is a wide variance of opinion in regard to the treatment. The question naturally arises here, whether or not labor should be terminated, and if so by what method. Those who have been trained under the teaching of the British school of midwifery follow,

as a rule, the advice of Gooch, who says: "Take care of the convulsions, and let the uterus take care of itself." Some hold that the induction of labor is positively injurious to both mother and child from increased reflex excitability from irritation, and the convulsions are encouraged from this cause, and that even if labor is terminated the seizures do not cease at once in a great many cases. Then again, there is the increased danger of an instrumental delivery.

There are certainly numerous cases treated from a non-operative standpoint which show excellent results.

In following current literature closely as to recorded cases, there is no doubt that veratrum viride seems to be the most efficient remedy. The utility of this drug was pointed out years ago by Fordyce Barker in his "Puerperal Diseases," and recent experience has proved it to be invaluable in some cases of eclampsia. In selecting the dosage and methods of administration of this drug consideration should be given to the amount which has been advised by different authorities. These reports emanating from British and Colonial writers naturally speak of the preparations of the British Pharmacopœia, of which the dose of the tincture is 5 to 20 min., a much weaker preparation than that of the U. S. Pharmacopœia, the dose of this being 2 to 5 min., the fluid extract having the same dose. The method of giving the fluid extract by the mouth in 15-min. doses until vomiting ensues, is now abandoned, and the hypodermic use of the tincture or fluid extract is substituted. Some advise the hypodermic injection of as much as $\frac{1}{2}$ dram of the tincture at one dose; others advise 10 min. of the fluid extract hypodermically, with 5-min. doses at intervals of one-half hour until the pulse is reduced. It has been claimed that Norwood's tincture always gives definite results.¹³ Saline solution should also be given by the bowel, in quantities of from 1 to 2 pints, and repeated if necessary.

The writer cannot agree that veratrum viride is an absolute failure, for evidence points that it has its own range of usefulness. Morphine has long been used in this disease. There is no doubt that it allays irritability, and some cases are reported where it alone was used, and the fits were checked, and did not return so long as the patient was under its influence.¹⁴ It should be given with great caution where there is renal inadequacy from Bright's disease. Chloroform is also a very valuable agent, but more useful when eclampsia develops during labor. Venesection is recommended in certain cases when the patient is full-blooded and

strong. This acts by diminishing the blood-pressure, and not by removing the toxins. The abstraction of blood and the substitution of saline solution would seem to have a beneficial effect in selected cases by lessening the toxicity of the blood. Chloral, bromides, and other remedies have been used, but they all seem to have the general drawback of acting too slowly.

In the United States most authorities on obstetrics are in favor of inducing labor at the earliest possible moment, taking into consideration the welfare of the mother. Dührssen holds that, as the child is so likely to die in a case of severe eclampsia during the first seven months, pregnancy should be terminated without respect to its viability. All obstetrical manipulations should be performed under the most careful antiseptic precautions, as there is a special tendency to sepsis in these cases.

When the eclamptic attacks occur *during labor*, all agree that labor should be terminated as soon as possible.

In those cases *where delivery has taken place*, and the seizures continue, it may be necessary to use saline infusions under the breast or in the abdomen, in quantities of from 1 to 3 pints. This, Jardine¹⁵ believes, has a diuretic effect, which flushes the system, dilutes the poison, and stimulates the patient. Here he is speaking of the treatment before delivery, but the writer is of the opinion that this form of treatment would be especially useful in attacks following delivery. Morphine, chloral, and chloroform are of great service in this stage also.

It will be seen, on reviewing the subject, that no hard and fast lines of treatment can be laid down, for each case is a law unto itself; and at this time when the pathology and causation of eclampsia have not reached a definite basis, the practitioner will have to judge for himself the particular form of treatment which is best suited to individual cases.

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THE PLACE AND IMPORTANCE IN THE COLLEGE CURRICULUM OF MATERIA MEDICA¹

By Warren B. Hill, M. D., Milwaukee, Wis.

NOTWITHSTANDING that about 95 per cent. of medical practitioners devote nearly their entire time to the practice of internal medicine by the application of remedies found in the materia medica, the greatest interest in the profession is centered upon therapeutic agents other than medicine. Looking over the programs of several state medical societies, it is observed that nearly all the papers read are along the lines of surgery or some kindred topic. In the smaller medical societies only an occasional hour is given to the subject of materia medica or therapeutics. The text-book of to-day on internal medicine devotes little space to the treatment of disease and almost none to subjects pertaining to our materia medica, while whole volumes in surgery are devoted to surgical therapeutics. Among the younger members of our profession the brightest minds are allured by the brilliant successes of surgical therapeutics. Our pathologists study their science from an anatomic standpoint almost to the exclusion of functional pathology, and, indeed, some of them say there is no pathology when no structural changes are noticed, however evident the functional disturbance may be.

In the curricula of our medical colleges a great percentage of the time is given up to surgery, surgical anatomy, surgical pathology, and kindred branches, while materia medica and its sister branches of pharmacy and therapeutics are given a minor place.

A surgical clinic attracts a large audience, while only a few remain to witness a clinic of internal medicine, and then the clinician seldom discourses upon that which he hopes will effect a cure for his patient. I do not speak of this state of affairs as a protest against the indifference for the consideration of our subject, but hope to call attention to the facts as they exist and see if we can locate the cause for this condition in the education of the doctor.

The reason that surgery is so attractive and so remunerative to its followers is that the whole system is built on therapeutics. The anatomy and the pathology that he studies is made subservient to his ultimate purpose, the cure of his patient; and surgeons never tire of listening to discussions as to the best method of operative procedure, even to the finest detail. Even the tying of a peculiar knot in a ligature has entertained an audience in the American

¹ Read at the Fifty-third Annual Meeting of the American Medical Association. *Jour. A. M. A.*, Sept. 6, 1902.

Medical Association, and the essayist has received the applause and congratulations of his colleagues.

Not so internal medicine. Some of the leading lights in this branch of medicine say, with a measure of pride: "We know nothing of therapeutics and less of *materia medica*."

In some of the largest clinics in this country and in Europe the clinician, after an exhaustive study of the scientific aspect of his case, not only says little or nothing about those agents which might be brought to bear to cure the patient, but does nothing, and apparently waits, rather impatiently, for the post-mortem to verify his opinions as to the pathology of the case.

He who aims to practice medicine for the good he may do or who hopes to build a practice by the results he achieves, finds little allurements in ante-mortem theorizing and post-mortem verification. Our patients come to us to be cured, and when internal medicine shall make the means of cure its central figure, and the purpose of the study of diagnosis and pathology, normal and pathological physiology, lead the way to therapeutics, then will the therapeutics of the *materia medica* interest the practitioner as does surgical therapeutics.

One of the noticeable things of to-day is the skepticism of the profession regarding drugs. The cause of this is, no doubt, the natural reaction from credulity. The young physician, and sometimes the older one, believes what some fellow physician or some traveling salesman says of the efficacy of particular drugs in particular diseases; and when disappointment overtakes him, as it surely must, he is prone to condemn drugs in toto.

How few physicians know the exact physiologic action of the drugs they use every day in their practice! How few take the same interest in functional disturbances that they do in organic lesions! It is as important to understand the physiological action of the agents employed in the cure of disease as it is to recognize the pathologic conditions, both functional and structural, in the patient. It is as essential to know the limitations of the agent as it is to know its potency.

A few years ago the wise men proclaimed that our *materia medica* would be relegated to the archives of ancient history in a very short time. The signal success of diphtheria antitoxin forecast in their minds an era when the hypodermatic syringe and the box of assorted serums would be the complete armamentarium of the future doctor. Time has not verified their predictions, nor

has it added many successes along the line of serum therapeutics; but the investigations of these enthusiasts have given us a rational reason for the use of many drugs. The knowledge that we now possess of cellular activity and the cause of disease should be a stimulus to a more scientific study of the remedial agents found in *materia medica*. Recognizing the fact that all doctors rely upon these remedial agents most of the time, and most of the doctors rely upon them all of the time, we must conclude that *materia medica* should have a very prominent place in the curriculum. The teacher should be an enthusiast in order to inspire the student. He should have that confidence in his subject that is gained by thorough knowledge and happy experience.

A famous jurist once said to his law student: "In your practice of law beware of the attorney with a small library, he has it in his head." In the teaching of *materia medica* I would suggest a small but carefully classified list of drugs that shall be thoroughly studied and demonstrated. The most eloquent man in the world could not teach diagnosis except in the presence of disease; neither can the most scientific teacher of *materia medica* bring his instruction to a successful issue without the presence and demonstration of his drug. The chemical and physiologic laboratory must be brought into requisition, and these kindred branches must be so interwoven in study of *materia medica* that the student cannot tell where one begins and the other leaves off.

The teaching of this subject should be by means of didactic lectures, laboratory demonstrations and quizzes. As I believe it would be inexpedient, if not impossible, for a medical student to learn all of the drugs in our *materia medica*, it should be the duty of the teacher to select those which he deems most important and so classify them in accordance with their physiologic action that the whole field of medical therapeutics would be covered.

I believe that the importance of this classification cannot be overestimated; unclassified knowledge is of little use and is soon forgotten. The drugs in each class should be arranged according to their therapeutic value, rather than in alphabetic order, and the same distinctions should be made in teaching their physiologic action as is made in the study of synonyms in rhetoric. In this way, by the use of a comparatively few drugs, the student has a sufficient knowledge of the essentials of *materia medica*, to which he may add innumerable remedies, and be able to make the finer distinctions. This would do away with text-books on the

subject, and in their place we would have reference books, as the student would be trained in library practice, which would serve him a good purpose in future years.

Laboratory instruction should consist not only in studying the physical and chemical properties of drugs, by which the memory would be assisted by an actual acquaintance with them, but it should be carried into the physiologic laboratory; and pharmaco-dynamics should be so demonstrated on the lower animals as to make a lasting impression on the mind of the student.

There should be at least two hours a week for one college year devoted to recitations upon this subject, beside the instruction already mentioned. If, in addition to this, the course in physiology could be so arranged that a reasonable portion of the time be devoted to function, with a view to possible derangement and cures, and the work be made to harmonize with that of pharmaco-dynamics, the student of *materia medica* would be so interested that this branch would be studied because of his love for it rather than because it is an essential to graduation.

The study of pharmacy, *materia medica* and therapeutics cannot be separated, and they must not be crowded into any one portion of the college course. From the day he enters the college until he passes his final examination the subject of the cure of disease by remedial agents found in *materia medica* should ever be kept before the student. In the first year he should be introduced to the subject through pharmacy and chemistry. In the second year he should be interested in it through the subjects of physiology and physiologic chemistry. In the third it, with therapeutics, should be made the basis of the preliminary study of medicine; and in the senior year *materia medica* in the form of the prescription should be made the cap-sheaf of his study in medicine.

TUBERCULOSIS OF THE URINARY TRACT¹

By P. Newmark, M. D., of Los Angeles, Cal.

THE author confines himself to the discussion of tuberculosis in two organs—the bladder and the kidney. He states in the beginning that the physician whose duty it is to examine a patient for disease of the urinary tract, finds himself in a somewhat peculiar position which differs from that in which one is usually placed in examination for other troubles. The sound, catheter and cystoscope may, in many cases, quickly

and surely satisfy the diagnostic need, yet one must at first, and occasionally through the entire course of the disease, abstain from their use. The application of these methods constitutes an operative procedure from which a patient may suffer considerable damage, even though the greatest care and most rigid asepsis has been observed in their application. If what has been said applies to disease of the urinary tract in general, it is more especially applicable to the *tuberculous* diseases of the same.

With regard to the *etiology* of these diseases, we must acknowledge that the theories of the various authors concerning the development and spread of the tuberculosis of the genito-urinary tract differ. Some assume that the affection descends from the kidney to the genital organs; others, while admitting the possibility of this origin, hold that the process ascends from the genital organs to the urinary tract. Of course, the essential etiologic factor in tuberculosis of the bladder, as in tuberculosis of other organs, is the tubercle bacillus.

The route through which the bacillus reaches the bladder might be manifold. The larger percentage of cases are undoubtedly induced by the urine carrying the bacillus from the kidney or ureter and the bladder becoming involved by mural implantation. Probably next in order of frequency is the extension from the ureter directly to the ureteral orifices and the bladder. Less commonly infection might occur from tuberculosis of the prostate. The involvement of the bladder by extension from the seminal vesicle is possible, but undoubtedly rare, and probably least common of all is infection of the bladder from the blood stream. As no age is exempt from the disease, we should not place any diagnostic importance upon the age of the individual in any given case. More important are family susceptibility or antecedent affections of the urinary tract, especially gonorrhea.

As to *symptomatology and diagnosis of tuberculosis of the bladder*, the author states that while tuberculosis in most organs is accompanied by a more or less conclusive clinical picture, this applies least of all to the tuberculosis of the urinary organs. There are several very significant symptoms indicative of tubercular affection of the bladder, but not always such as that they could not be mistaken for some other disease of the bladder, and, furthermore, we often encounter cases of tuberculosis of the bladder without those characteristic symptoms being present. On this account it is extremely essential that in considering the diagnosis of such cases one idea should al-

¹ Read at the twenty-ninth semi-annual session of the Southern California Medical Society. Abstracted from *Med. Record*, Sept. 27, 1902.

ways be borne in mind. There is not one method or one significant clinical feature by means of which a man can with ease and positiveness make a diagnosis for or against tuberculosis in all these cases. It is only by bringing into play all the factors that the laboratory and clinical observation can control that a man can say in very many disputed cases of the urinary tract that a disease is or is not of a tubercular nature.

Frequent desire to urinate, with painful micturition, and the pathological condition of the urine, are the chief symptoms met with in such cases. The first thing to attract the patient's attention is his frequent desire to urinate. Urination becomes more frequent as the disease advances, and is soon associated with pain, which is usually experienced about the middle of the penis. This symptom is very significant of tubercle, and differs from that which pertains in calculus, where the pain is felt at the meatus; and whereas in tubercular disease of the bladder the pain is present before, during and after urination, it is not so much aggravated after emptying the bladder as is the case in stone.

In the later stages of the disease the violent contractions to which the walls of the bladder are subjected during the course of the disease, and the products of the chronic inflammatory process lead, as a rule, to great thickening and progressive contraction of the lumen of the organ, so that the capacity of the bladder in extreme cases hardly exceeds a tablespoonful. This condition is always associated with an urgent and frequent desire for micturition.

The urine exhibits the same appearance and contains the same morphological constituents as in cases of chronic catarrh of the bladder, and presents, in addition, two very characteristic features—hematuria and tubercle bacilli. Hematuria is frequently a prodromal symptom in vesical tuberculosis, occurring only at intervals and merely in quantities sufficient to impart a reddish tinge to the urine. Profuse hemorrhage following micturition usually implies ulceration of the bladder. The demonstration of the presence of tubercle bacilli in the urine, however, is the most reliable diagnostic resource in such cases. As this factor is of the utmost practical importance, the author thinks a more detailed consideration of this point justifiable, partly because the staining and detection of tubercle bacilli in the urine sediment is somewhat difficult, partly on account of the necessity of their differentiation from other bacilli, which may at times resemble them.

In the first place, it is a well-established

fact that tuberculosis of the urinary apparatus may be widespread without the investigator having been able to demonstrate the presence of bacilli in the urine, and while every general practitioner is able to demonstrate with comparative ease the presence of tubercle bacilli in tuberculosis sputum, it becomes a more complicated affair to detect them in the urine.

The secret of finding tubercle bacilli in the urine lies in rapid sedimentation by the centrifuge and immediate staining. Urine which has stood sufficiently long to sediment in the ordinary conical glass commonly fails to show the organisms. However, even with the utmost care and consideration of this point, we are often unable to detect tubercle bacilli in the urine. Is this due, perhaps, to the morphologic changes the organism undergoes in the acid urine, so that we no longer recognize it? While partly due to the condition named above, the failure to find the organisms is to a greater extent due to the small number of bacilli present in the urine.

If the bacilli cannot be found, the injection of a few drops of the urine sediment into the eyes, a joint, or the peritoneal cavity of a rabbit will often succeed in reproducing the disease.

Regarding the differentiation of the tubercle bacilli from other bacilli, it may be stated that the only organisms which may be mistaken for tubercle bacilli are smegma bacilli. That the error is a common one can be concluded from the many cases reported in the medical literature where smegma bacilli had been mistaken for tubercle bacilli. As the smegma bacilli are very commonly present about the genitals, it has been suggested, in order to escape this error, to draw the urine by the catheter. Sondern, however, who has made an exhaustive study of these conditions, has found smegma bacilli in urine drawn by catheter, and even in separately collected urine, and he has, therefore, abandoned the conclusion advocated by others, that urine obtained by catheter from the bladder contains no smegma bacilli, so that these specimens should have the same care in differential staining as those voluntarily voided.

There are, however, several points, the consideration of which will almost in every case enable us to differentiate tubercle bacilli from smegma bacilli, and these are the staining, grouping, and cultivation of the bacilli found in the sediment.

As to the differential staining, we see the smegma bacilli completely decolorized by acid-alcohol, while at the same time no action on the color of tubercle bacilli. Re-

garding the grouping, the author says that smegma bacilli may occur in clumps or single; when in clumps the arrangement is usually an irregular one, but never in the characteristic groups of tubercle bacilli. On the other hand, tubercle bacilli found in the urinary sediments occur single at times, but in the large majority of cases in smaller or larger groups. The grouping is generally characteristic—the bacilli lie side by side, parallel, and end to end in a more or less regular arrangement.

If there should be any doubt left, it is advisable to resort to cultivation, the smegma bacilli growing much faster than tubercle bacilli.

The cystoscopic examination in cases of tuberculosis of the bladder does not offer a very characteristic picture in general, and is, as a rule, contraindicated on account of the great irritability and hyperesthesia of the bladder, and its inability to expand. In some cases, however, it will aid in determining the starting point and extent of the disease present.

The two places in which tuberculosis of the bladder is most likely to commence are the ureteral orifices and the trigone of the bladder. The former starting point of the disease is the rule when the disease is secondary to renal tuberculosis. The trigone is usually the starting point in primary tuberculosis of the bladder, or by extension of the disease from the genital organs. In some cases, where no bacilli can be found, we may thus be enabled to clear up the diagnosis by detecting typical gray nodules, or the so-called lenticular ulcers, or to suspect the involvement of the kidneys.

The treatment of tuberculous disease of the bladder can be divided into general treatment, direct medication and surgical procedures.

With regard to general treatment, it may be sufficient to state that dietetic, climatic, and proper hygienic surroundings play as important a part in these cases as they do when any other organ of the body is invaded by tuberculous disease.

The internal use of drugs known to be anti-tuberculous, as well as urinary antiseptics, should be commenced early and continued for a long time, especially guaiacol, beginning with 3-drop doses, three times daily, up to 20 drops, or the same number of grains of its carbonate, when the dose should be gradually diminished. Some authors have seen good results from the internal use of ichthyol in 10 to 60-drop doses three times a day.

Of the urinary antiseptics which are

especially indicated when pus is found in the urine, the author mentions salol, resorcin, boric acid, and methylene blue.

The local treatment of vesical tuberculosis has not proved very beneficial, unless done with the utmost care in selecting the proper cases and in using instruments that have been rendered absolutely sterile. Too much stress cannot be laid on the fact that a tubercular bladder is very sensitive to instrumentation, and the handling of such cases has often recalled the experience we have in the treatment of tuberculous joints and bones, where the surgeon, by non-surgical interference, oftentimes obtains the best results. One idea should always be borne in mind—never to distend the bladder through irrigation, as over-distention invariably tends to aggravate the local condition. In consideration of this point Guyon only uses instillations, preferably with corrosive sublimate, and other authors have accepted and respectively modified this treatment of vesical tuberculosis.

At first the instillations are made weak, about 1:1000 to 5000, twice a week, the strength of the solution and its quantity gradually increased to 50 Cc. If the treatment is not well borne, or is not followed very soon by improvement—lessening of pain in micturition—it is best to desist from further local medication. Silver nitrate, so useful in the treatment of chronic vesical catarrh, has proven of no value in the treatment of tubercular cystitis. The author considers this point of so much importance that whenever a case of so-called chronic vesical catarrh does not respond to a few silver nitrate applications, he is inclined to diagnose the case either as pyelitis or as tubercular disease of the bladder, unless the chronic catarrh is dependent upon the presence of some other cause, such as tumor, stone of the bladder, or hypertrophy of the prostate gland.

In some cases it becomes necessary to resort to surgical procedures in order to relieve pain, tenesmus, and the frequent desire for urination. For this purpose permanent drainage becomes necessary, either through perineal or suprapubic cystotomy. The perineal drainage seldom yields the expected relief. It requires long rest in bed. The urine cannot be prevented from escaping alongside of the drain, keeping the bedding and clothing of the patient constantly wet. Therefore the suprapubic cystotomy is to be preferred, as it offers superior advantages to the operator, enabling him to deal more efficiently with the tubercular lesion. If on opening the bladder an ulcer is discovered, it can be destroyed by means

of the sharp spoon, followed by the local application of iodoform to the abraded surface.

In *tuberculosis of the kidney* we discriminate several different forms. Miliary tuberculosis of the kidney is nearly always bilateral, the kidney is not sufficiently enlarged by the inflammatory process to be distinctly felt by bimanual palpation, and the patient succumbs in a short time to the effects of a diffuse and miliary tuberculosis. In caseous nephritis the infection occurs in the substance of the kidney. These cases are of importance to the surgeon, because they frequently affect only one kidney and are, therefore, amenable to successful treatment. In tuberculous pyelonephritis the disease involves the surface of the pelvis of the kidney, is frequently unilateral, and the infection is caused either by an ascending tubercular infection from the lower part of the urinary tract or by the precipitation of tubercle bacilli eliminated by the kidney upon the surface of the pelvis.

Regarding *symptomatology and diagnosis*, it may be stated that the most important and reliable information is furnished by a careful examination of the urine. If we find tubercular bacilli in the urine originating from the kidneys and characteristic products of kidney lesion, we are justified in making a diagnosis of renal tuberculosis. If the bacteriological examination of the urine proves negative, it does not necessarily show that the patient is not suffering from tuberculosis of the urogenital organs, and if the clinical symptoms point in this direction, inoculation experiments with the urine will frequently yield final results as to differential diagnosis between tuberculosis and other inflammatory affections of the genito-urinary system.

All other clinical symptoms as pain, hematuria, and enlargement of the kidney are very valuable in suggesting and aiding diagnosis, but are by no means pathognomonic, as renal calculus, renal tumor, stone and tumor of the bladder may present similar symptoms.

Another very valuable method in early diagnosis of renal tuberculosis is cystoscopy, to be made only when a diagnosis cannot be made by any other diagnostic means. As stated above, tuberculous affections of the urinary tract form generally contraindications for instrumentations of any kind and are, therefore, to be resorted to only in extreme cases where a final diagnosis is to be made in the interest of the patient. This visual inspection of the bladder will sometimes reveal inflammatory changes around the orifice of the ureters; it will in

other cases, if there are no lesions of the bladder found, enable us to recognize the source of hematuria present.

Finally, by catheterizing the ureters, submitting the separated urines to microscopical examination, including staining for bacilli, and, if negative, by injecting a portion of each sediment into a separate guinea-pig it will be possible in most cases to arrive at an early diagnosis.

The author cites a case where catheterization of the ureter revealed unsuspected disease of the kidney by virtue of the suspicious appearance around the ureteral orifice.

In cases where a pyelonephritis is found in an individual giving some other suggestions of urinary tuberculosis without our being able to confirm the diagnosis by the above-mentioned diagnostic means, a great deal of value is to be placed upon the injection of tuberculin for diagnostic purposes, as advocated by A. V. Koranyi. This author describes two such cases, in which, on account of general and local reaction following tuberculin injection—temperature of 104° and tenderness and pain in the respective kidney and ureter side—he felt justified in making a diagnosis of tuberculous disease of the kidney, and in both cases the clinical diagnosis was verified by the pathological reports.

From the foregoing remarks it is apparent that there are manifold symptoms and diagnostic means indicative of renal tuberculosis, but a probable or positive diagnosis can be made only by a careful study of the clinical history and by recourse to all diagnostic means, including a careful bacteriological examination of the urine. The earlier we recognize the condition present, the more successful will be the treatment, which is chiefly a surgical one and consists in removing the diseased organ. But before performing nephrectomy the surgeon ought to assure himself by means of the ureter cystoscope of the presence and condition of the second kidney, as "it is just as important to seek for and study the contraindications as it is to study the indication for an operation" (Senn).

By catheterizing the ureters we are able to examine the urine of each side chemically, microscopically, and bacteriologically. Another very important factor is the condition of the functional action of the kidney, a point which is of the utmost importance in the early diagnosis of kidney disease.

In looking over the literature of death following nephrectomies, we are forced to the conclusion that in many cases sudden death from uremia shortly after nephrec-

tonies, which were undertaken with all confidence of ultimate success, was due to the failure of determining before the operation the condition of the functional action of the second kidney. In the last three or four years a decided progress has been made regarding this point, and as we at first studied the functional action of the heart and stomach, so to-day we are studying the functional action of the kidney, our aim being to determine the insufficiency of the kidney without any other manifestations of disease being present.

It has often been said, and Koenig has lately emphasized it, that there are cases in which it is not possible to diagnose with absolute certainty the healthy condition of the kidney. The author believes that we can never be *absolutely* certain. Our present methods of diagnosis lead, at most, to the positive recognition of disease of the other kidney.

The cystoscope is a great aid in diagnosis of these cases, and while the author fully agrees with Henry Morris when he remarks "The cystoscope and the ureteral catheter should be employed with reserve and with great caution in tuberculous disease," he believes that we cannot dispense with this diagnostic means altogether in some of these cases. However, we should always remember that the employment of this method involves a certain danger of infecting a healthy ureter by inserting a catheter into it through an oftentimes infected bladder. On the other hand, the practical experience of Casper (Berlin), Albarran (Paris), Kümmel (Hamburg), and others, who have catheterized ureters hundreds of times, has never shown any permanent untoward results due to ureter-catheterization, provided it was done with proper care and caution.

[It will have been noted that the author advocates the administration of guaiacol or its carbonate in the treatment of tuberculous disease of the bladder. It may be of interest to state here that investigators have succeeded in preparing a compound of guaiacol—thiocol, the potassium salt of ortho-guaiacol-sulphonic acid—that is free from the taste and odor of guaiacol, is readily soluble in water, non-toxic and non-irritating. Many clinical reports show the advantages of thiocol over all the creosote derivatives, especially as an anti-tubercular. The ordinary adult dose is given as from 5 to 20 grn. three times a day. Physiological experiments have demonstrated that thiocol produces a striking increase in weight and a favorable influence on the blood.—Ed. M. A.]

HEMOL AND ITS DERIVATIVES

Hemol and hemogallol are organic compounds containing iron. They are obtained from the blood, and represent intermediate substances between hemoglobin and hematicin. Hemogallol is obtained by the action of pyrogallol on the blood of animals. It is a reddish-brown, tasteless powder, insoluble in water. Dr. Matzner¹ has employed hemol and hemogallol in anemia and chlorosis, and speaks favorably of the results obtained.

Ferro-hemol is a combination of iron with hemol. Given in doses of 8 grn. (the compound is a brownish powder) thrice daily with meals, it has been of service in cases of chlorosis. Patients bear it well. Hemol and hemogallol are given in the same doses of 8 grn. and also act well.

Mercurio-iodo-hemol, a combination of hemol with iodine and mercury, has been used in syphilis with very satisfactory results.

Arsenhemol is an analogous combination of hemol and arsenic. The dose is 1½ grn. in pill form. It is useful in various skin diseases—for instance, psoriasis, lichen, herpes zoster. The remedy is well tolerated by the digestive organs.

Bromo-hemol contains about 3 per cent. of bromine in firm organic combination. In doses of 30 grn., two to three times daily, it is useful in neurasthenic and hysterical conditions.

TOXICOLOGY OF PHOSPHORUS

Various opinions prevail concerning the toxic action of phosphorus. While some authorities maintain the toxicity of the element itself, others attribute the poisonous symptoms to its compounds. Dr. Konrad Stich² experimented with phosphorous in its relations to oxygen and turpentine. His researches lead him to believe that phosphorus is poisonous through its influence on the normal course of oxidation in the system. New and abnormal combinations are the result, and find their final expression in the pathological tissue-changes.

For centuries turpentine has been employed as an antidote to phosphorus. The two were thought to form a non-poisonous compound, the turpentine-phosphoric acid. This explanation has been abandoned. Turpentine acts simply by interfering with the rapid oxidation of the phosphorus. It has long been observed that phosphorus loses its phosphorescence after having been immersed in turpentine, a circumstance also depending on retarded oxidation.

¹ *Heilkunde*, VI, No. 5.

² *Münch. med. Woch.*, XLIX, No. 32.

Progress in Materia Medica and Therapeutics

HYDROFLUORIC ACID

Several years ago an Italian physician, Dr. L. Olivieri,¹ experimented with hydrofluoric acid in the treatment of malaria, and obtained quite favorable results. More recently Dr. F. Mergoni¹ repeated the experiments on a large clinical material. The acid is administered by inhalations varying from half an hour to one hour in duration. These are ordered more frequently during the afebrile intervals. No special apparatus is necessary; the usual inhalers used in treating phthisis will serve every purpose. Solutions of one-third full strength (the acid diluted with two parts water) and even stronger were well borne. Mild lacrymation and cough were the usual accompanying symptoms of irritation.

The inhalations have given good results, especially in chronic paludism which had resisted quinine by the mouth. Hydrofluoric acid may be considered as an adjuvant to quinine, and a substitute when the latter fails.

THE ABUSE OF NITROGLYCERIN

A contemporary² deplores the abuse of nitroglycerin, which for some curious reason has obtained a reputation in the medical profession as a "cardiac stimulant." Strictly speaking, it is extremely doubtful if nitroglycerin ever produces such an effect. While the first consequences of its influence may seem to be to increase the activity of the heart, its dominant influence is exercised upon the blood-vessels so that they are relaxed, and as a consequence the heart has less work to do. It is manifest, therefore, that when nitroglycerin is administered to a patient suffering from a failing heart, it may produce advantageous results not because it acts as a cardiac stimulant, but rather because it diminishes the work of the heart by lessening the pressure of the blood-vessels, and so diminishing the resistance in the circulation of blood.

In instances in which a high arterial tension is producing difficult cardiac action, nitroglycerin is therefore one of our most valuable medicaments, and in all probability a majority of human beings would be better for its use in the advanced years of life because of this well-known physiological effect. On the other hand, to administer the drug to patients suffering from cardiac failure of an acute type as a result of acci-

dent or collapse arising from other causes is not only an abuse of the remedy but is quite as well qualified to produce harm as to produce good, since under these circumstances the circulatory failure may be as dependent upon vascular relaxation with an inability of the heart to fill dilated blood-vessels as upon any direct cardiac failure in itself.

It is difficult to find an instance in which a careful consideration of the physiological action of a remedy leads more readily to its beneficial employment than in the case of the drug under consideration. The rule for the use of this drug, in connection with its influence upon the circulation, should be to employ it when the heart is to be relieved of excessive work, and not to employ it when the heart really needs a direct stimulant, for nitroglycerin is not such a drug.

In all this there is nothing new, but it is well worth reiterating.

APOMORPHINE IN PUERPERAL CONVULSIONS

Dr. T. N. Kitchens¹ calls attention to his favorable experience with apomorphine in puerperal convulsions. His resort to the drug was suggested by its powerful diaphoretic action, which is almost equal to that of pilocarpine without any tendency to cause pulmonary edema however.

Apomorphine was used in several cases of eclampsia after child-birth. The author would not hesitate to use it during the other stages of labor, in view of the excellent effects. One dose of $\frac{1}{20}$ grn. has sufficed in his cases, though it could safely have been repeated in half an hour. Small doses must be given to insure a diaphoretic and prevent an emetic action.

TREATMENT OF PNEUMONIA

After briefly reviewing the various methods of treating pneumonia, Dr. R. W. Wilcox² goes on to say:

So late as 1897 Osler believed that we had no reliable measures at our disposal to combat the toxemia of pneumonia. Within two years, however, Cassoute and Corrier reported that after continuous administration of fairly large doses of creosote carbonate (containing 91 per cent. of creosote, and made from it by the action of nascent carbon dioxide), in most cases a typical fall of temperature occurred during the

¹ *La Sem. méd.*, XXII, No. 33.

² *Therap. Gazette*, Sept., 1902.

¹ *Therap. Gazette*, XXVI, No. 8.

² *Amer. Jour. Med. Sciences*, Sept., 1902.

first twenty-four hours of treatment, and if the remedy was persisted in for a sufficiently long period of time the apyrexia became permanent. Relapses and sequelæ, so frequently seen under other methods, were entirely absent. So positive an assertion could not escape attention. Creosote—better beechwood creosote—is not a new remedy, but its caustic action and its irritating effect on the kidneys when given in necessary amounts had prevented its use. So pronounced were these untoward results that the author had abandoned its use in pulmonary tuberculosis several years earlier. The daily dose of creosote carbonate was from 2 to 4 drams, the dose interval being six hours. So soon as the temperature reaches the normal the amount is reduced to one-half, and this is continued so long as auscultatory signs persist. What are the results? Cassoute and Corgier report favorably upon 18 cases; Stokes, 7; Bridges, 8; Meitner, 13; Eberson, 4; Van Zandt, 16; Von Ruck, 20 (complicating pulmonary tuberculosis); Weber, 9; and Thomson, 18 cases. From these observations the statement of Van Zandt is fair, that creosote carbonate cuts short or aborts a large percentage, mitigates all the rest, and in a small percentage of pneumonia there is no result. Certainly if the earlier appearance of the crisis is any indication of the value of the remedy it deserves a careful trial.

The author's experience covers 33 patients with no deaths. The disease terminated by lysis in 9; by crisis in 24. Crisis occurred on the sixth day in 1, seventh in 2, eighth in 9, ninth in 6, tenth in 3, eleventh in 2, and on the twelfth day in 1 patient. In 2 patients above the age of seventy lysis occurred. Of 3 alcoholic subjects, in 2 lysis and in 1 crisis was noted. Two instances of double pneumonia both terminated in lysis; in one the infection of the two lobes was contemporaneous, in the other by sequence. Aside from the remarkable reduction of mortality, the increased percentage of cases in which crisis is noted is suggestive as to the true significance of that phenomenon, and is an argument for the value of the remedy in nullifying bacterial activity and its results.

Dr. Wilcox further states that under this method of treatment tympanites is rare and the necessity for calomel greatly decreased, and concludes as follows:

The present status of the treatment of pneumonia is especially satisfactory when results are considered. To summarize: (1) Continuous, persistent, and generous administration of creosote carbonate. (2) Careful adjustment of mechanical condi-

tions. (3) Through evacuation of toxins by all possible ways. (4) Temporary supplemental oxygen by inhalation. (5) Liquid diet until physical signs disappear.

To be avoided, are antipyretics, opiates, ill-advised external applications, and slowly-acting heart remedies, as digitalis.

THE TREATMENT OF CARBOLIC ACID POISONING

Dr. David E. Wheeler¹ gives the treatment of a person who has swallowed a poisonous dose of carbolic acid as follows: On being called to the patient, introduce the stomach-tube and wash out the organ. The tube is best introduced through the nose, care being taken to make sure that the tube does not enter the trachea.

Having tested siphonage with plain warm water, the stomach is now washed with 30-per-cent. alcohol. As much dilute alcohol is poured in as will enter easily, and is then returned. This is continued until the odor of carbolic acid disappears from the washings. On the average, 3 quarts of dilute alcohol will be consumed in the process.

The more urgent indications fulfilled, the patient ought to be catheterized, in order to remove the phenol derivatives in the urine. Before this, however, chemical antidotes will have been introduced into the stomach through the tube. The best antidote is a soluble sulphate. The sulphates pass into the circulation and neutralize the poison in the blood.

Next comes the need of administering stimulants. Of these, atropine is a physiological antidote, and should be given hypodermatically. Strychnine, camphor, digitalin, etc., are also efficient. Artificial heat should be supplied by means of hot water bottles, warm blankets, etc. A saline enema at 110° F. often acts most admirably.

Complications are treated according to accepted principles.

Dr. Rowland Cox emphasizes the importance of wasting no time in searching for the ideal antidote, but giving the best at hand. If whiskey can be obtained, pour it in through the tube; otherwise use the sulphates, egg-white, etc.

In hospital practice, gastrostomy might be performed in cases where the acid cannot be removed from the stomach otherwise.

Dr. L. Jacobi calls attention to the possible value of artificial respiration, in addition, of course, to the other well-recognized measures. He says: "It has been plausibly asserted that in fatal cases of poisoning with carbolic acid death is often the imme-

¹N. Y. Med. Jour., LXXV, Nos. 21 and 22.

diate result of asphyxia, the latter being due in part to edematous conditions about the larynx and partly to the falling back of the tongue and the consequent closure of the laryngeal orifice by the epiglottis. Acting on this suggestion we should watch the breathing, and the first evidence of its obstruction should be the signal for employing Laborde's method of artificial respiration (by means of rhythmical traction on the tongue).

Dr. W. J. Cavanagh lays special emphasis on the antidotal and stimulating value of atropine in poisoning with carbolic acid. The drug should be given in sufficient quantities to maintain dilatation of the pupils and to overcome the depression of vital centers. Too much stress cannot be laid on the necessity of immediate treatment.

Other contributors to the discussion are unanimous in recommending alcohol in some form as an antidote. As a good demulcent mixture for subsequent use, Dr. Woodruff advises the following:

| | |
|--------------------------------------|--------|
| Bismuth Subn ^o trate..... | 1 oz. |
| Olive Oil..... | 2 oz. |
| Castor Oil..... | 1 oz. |
| Mucilage Acacia..... | 1½ oz. |
| Lime Water, to make..... | 6 oz. |

Tablespoonful every hour.

Dr. Bernhard Weiss submits a practical suggestion. He advises every physician to devote one satchel exclusively to the necessities of treating cases of poisoning. Such an "antidote bag" may prove the means of saving many a life.

IODIDES AND IODIPIN IN SYPHILIS

Dr. Joseph Sellei¹ contributes some observations on the action of alkaline iodides and iodipin in syphilis. His studies were suggested by the recent discovery that the bromides act best when chlorides are not supplied to the system. In this case bromine takes the place of chlorine. The author has tentatively applied the same principle to the iodides.

We all know the great drawback of iodism in the therapeutic use of iodides. Many remedies are praised as being able to counteract the tendency to iodism, but they are all ineffectual. Unfortunately the author has found that even a diet free from chlorides cannot prevent the intoxication when taking alkaline iodides. Such a diet does not even increase the activity of iodine in the system. The desideratum remained to find a means of keeping the iodine for longer periods of time in the body, and the problem seems to have found a solution in the discovery of iodipin.

Iodipin, which is an organic combination

of iodine and sesame oil, is absorbed unchanged and deposited in the tissues, where a slow oxidation takes place; iodine is liberated and its gradual and prolonged action thus insured. It has been asserted that no symptoms of iodism follow the use of iodipin. To this the author cannot subscribe fully, in view of his own experience. However, he agrees with other observers that the iodism after iodipin is much milder than after alkaline iodides.

In order to minimize the intoxication, the author recommends the subcutaneous administration of iodipin. By this method a very prolonged and gradual liberation and elimination of iodine takes place and the danger of iodism is largely obviated.

He employs iodipin chiefly in tertiary syphilis. Recently acquired lues, he says, should be treated with mercury only. He reports a series of cases which illustrate these conclusions.

DISINFECTION OF THE HANDS

Essential oils have already been utilized for dressing wounds, but their employment for rendering the hands aseptic is rather novel. Nevertheless, such an innovation seems to rest on a rational basis, as shown by the experimental researches of Dr. E. Calvello.¹ Certain oils possess, according to this author, germicidal virtues equal to those of a 1-per-cent. sublimate solution.

He experimented with the oils of thyme, geranium, patchouli, and cinnamon. Emulsions of different strength were prepared, and the hands previously soiled with staphylococci or bacterium coli were washed with soap and water for five minutes, then immersed for the same length of time in absolute alcohol, and finally washed five minutes in the emulsion. Cultures were thereupon made.

By this means the author could establish the following propositions: Neither alcohol after soap and water, nor the methods of Ahlfeld and Fürbringer can render the hands perfectly aseptic.

On the other hand, an emulsion of oil of cinnamon, 7 to 8 per cent.; of thyme, 11 per cent., or of geranium, 17 per cent., possesses the germicidal power of sublimate 1 per cent., without the disadvantages of the latter. To insure absolutely complete aseptis we only have to use oil of cinnamon, 9 per cent.; thyme, 12 per cent., and geranium, 18 per cent.

The oil of patchouli is inferior to the others, even in concentrations as strong as 50 per cent.

¹ *Monatsh. f. prakt. Dermatol.*, xxxiv, p. 240.

¹ *La Sem. méd.*, xxii, No. 33.

SANTONIN IN LOCOMOTOR ATAXIA

Two years ago an Italian physician recommended santonin in neuralgia and the lancinating pains of locomotor ataxia. Recently Drs. Combemale and De Chabert¹ repeated the experiments and obtained encouraging results in tabetic pains. On ordinary neuralgia, however, santonin was inert. The daily dose given to tabetic patients was 3 grn. taken at one time. The lancinating pains were promptly relieved, and it even seemed that the remedy could prevent fresh attacks.

Smaller doses like 1 to 2 grn. are also effectual, but the necessity of repeating them may precipitate a gastric crisis. The drug should, therefore, be discontinued immediately on the appearance of yellow vision, which is an early symptom of santonin intoxication.

CACTUS GRANDIFLORUS

Digitalis, while undoubtedly one of our most valuable remedies, is often contra-indicated by fatty degeneration of the cardiac muscle, by advanced arteriosclerosis, and, according to some authorities, by aortic valvular lesions. In all these conditions we must have recourse to other drugs. Then, again, a prolonged administration of digitalis is undesirable, and a temporary substitute must be given. As such, strophanthus is recommended, but its nauseating taste and irritating action on the kidneys are against it. Sparteine, convallaria, and others are unreliable as substitutes for digitalis.

In view of all this, a new cardiac remedy must be welcomed as supplying a want. *Cactus grandiflorus*, according to Dr. Zelenski,² seems to fulfil the necessary requirements. It is a heart- tonic, free from toxic or cumulative drawbacks. [It isn't exactly a new remedy.—ED.]

The fluid extract of cactus is a light-green fluid, having a characteristic vegetable odor and a pleasant taste. The active principle has not as yet been isolated. Some assert it to be an alkaloid (cactine, cadine); others doubt the existence of either alkaloid or glucoside in the plant. Besides the extract, there is a tincture of cactus on the market, of about one-third the strength of the fluid extract.

Cactus grandiflorus is indicated in heart-weakness with insufficient compensation, in angina pectoris, and in functional disorders of the organ, such as the tobacco-heart, the alcoholic heart, etc. It acts well in cases contra-indicating digitalis, as aortic

valvular lesions, degenerations of the cardiac muscle, and bradycardia caused by vagus irritation. Furthermore, the drug has given good results in the heart weakness of Graves' disease, anemia, and sexual exhaustion.

Absolutely no untoward effects have been observed, even after prolonged high dosage. The author considers the ordinary doses of 5 to 15 drops of the fluid extract as too low. He gives 30 drops thrice daily as the average quantity.

GLUTOL IN BLEEDING

At a recent meeting of the New York County Medical Association, Dr. Edward L. Keyes, Jr.,¹ presented a paper on "The Therapeutic Use of Suprarenal Extract in Diseases of the Genito-Urinary Tract." The author expressed the opinion that suprarenal extract had only a restricted application in this department of surgery. It was useful, for example, in preventing the troublesome bleeding often associated with the simple operation of meatotomy, but even here he felt it necessary to insure against subsequent bleeding by the application of glutol, a compound of formaldehyde and gelatin.

TREATMENT OF GONORRHEA IN THE FEMALE

Dr. W. B. Small² states that gonorrhea in women presents many features peculiar to the sex and different from the phenomena of the same disease in the male. As to treatment, however, the difficulties encountered are equally numerous, as shown by the variety of "cures" advanced, and the legion of drugs and appliances recommended.

The urethra is probably the most frequently affected organ in the female, no less than in the male. Next in the order of frequency comes the cervix, then follows the vagina. The vulva, the rectum, and the inguinal glands are less commonly attacked. Specific urethritis in the female is seldom treated as a distinct affection. Its symptoms are plain during micturition and the desire to pass urine frequently. The discharge is at first scanty and mucopurulent, consisting of pus cells and epithelial cells, with a few gonococci. Under such conditions local treatment is contra-indicated. The patient is directed to avoid acid or carbonated drinks and a powder of potassium bromide, potassium bicarbonate and salol, 10 grn. each, is ordered every four hours until the dysuria is somewhat relieved. The discharge in the meantime becomes purulent and contains numerous gonococci.

¹ *Klin.-therap. Woch.*, IX, No. 32.

² *Klin.-therap. Woch.*, IX, No. 22.

¹ *N. Y. State Jour. of Med.*, 1902, No. 6.

² *Univ. of Penn. Med. Bull.*, XV, No. 5.

Now local treatment is indicated, consisting of urethral irrigations with protargol, $\frac{1}{2}$ - to 1-per-cent. strength, with the aid of a soft rubber catheter. Internally, sandalwood oil and copaiba balsam, 5 min. each, are given in capsules, combined with 3 grn. of papain or other vegetable digestant.

Should cystitis supervene, as indicated by increased frequency of urination and, in severe cases, by hematuria, irrigation of the bladder with a 1-per-cent. protargol solution is advisable, and may be continued until the cystitic complication subsides.

When the urethral discharge assumes a less severe character, showing small cells and scanty gonococci, a mild astringent injection is prescribed, as zinc sulphate and powdered alum, 15 grn. each; water, 4 oz., or a few drops of carboic acid may be added to this combination. Later on, a more astringent mixture may be employed: Zinc acetate and tannic acid, of each, 20 grn.; distilled water, 4 oz. After all discharge has ceased, "clap shreds" will be found to persist, and the treatment will consist in passing sounds and in massage of the urethra per vagina.

A urethritis lasting over two months is classed as chronic, and may have its seat in the anterior, middle or posterior urethra. The anterior form is an infection of the follicles with gonococci, and is most efficiently combated by means of injecting pure ichthyol. The other forms are dealt with similarly to the methods of treating gonorrhea in males: sounds are employed and irrigations with silver nitrate, 1:4000 up to 1:1000; or ichthargan, 1:2000.

After continuing these measures for two to four weeks, a corrugated sound with Finger's ointment is employed:

| | |
|-----------------------|----------|
| Potassium Iodide..... | 1½ dram |
| Iodine..... | 15 grn. |
| Olive Oil..... | 1½ drams |
| Wool-fat..... | 3 oz. |

To be inserted in the urethra and allowed to remain for five to ten minutes.

Cervical gonorrhea is treated by applications of 1- to 2-per-cent. solutions of protargol. A deep urethral "male" syringe with a straight nozzle is very well adapted for this purpose. It is inserted up to the internal os, and the liquid injected very slowly while the syringe is withdrawn. This procedure may be repeated daily, or every other day. When the discharge shows no more gonococci, ichthyol and glycerin, 20-per-cent. strength, should be used for the injections. Sometimes ichthargan acts better.

When the infection has reached the body of the uterus a thorough curettage is the best procedure, followed by swabbing the

uterine cavity with protargol, 5- to 10-per-cent. strength.

Vaginal gonorrhea is very infrequently met with in adult women. It is oftener seen in children. The treatment consists in irrigations with weak solutions of boric acid, followed by 1-per-cent. solutions of protargol. Later, zinc and alum may be used. Small suppositories of ichthyol, inserted after touching all ulcerated places with 1- to 2-per-cent. silver nitrate, usually leads to prompt healing. In adults, vaginal gonorrhea is treated with douches of potassium permanganate, 1:2000, followed by protargol, 1-per-cent. Tampons soaked in ichthyol solutions may be inserted, to prevent the vaginal walls from coming in contact with each other.

In gonorrheal vulvitis, also often encountered in children, a solution of boric acid or lead-water may be applied locally, and rest insisted upon. Gauze compresses wet with these solutions should be kept between the labia. Later, the inflamed surfaces may be painted with 2-per-cent. solutions of silver nitrate, followed by a dusting powder of boric acid and acetanilid, equal parts.

Generally, the vulvo-vaginal duct is inflamed in this condition. The remedy *par excellence* is ichthyol, injected pure into the duct. This prevents abscess formation. If the gland itself becomes infected, it should be completely extirpated.

For rectal gonorrhea protargol is recommended in 1-per-cent. strength, combined with deodorized tincture of opium. About 1 oz. of the mixture should be injected in the recumbent posture. Later, zinc and alum solutions are ordered.

Gonorrheal bubo is infrequent in the female. As soon as swelling of the glands appears, the groin should be immobilized and an ointment of ichthyol, wool-fat, belladonna ointment, and mercurial ointment, equal parts, should be applied on lint and kept in place by a bandage. This should be repeated every other day. If no improvement follows, surgical treatment is indicated.

TREATMENT OF MIGRAINE

Dr. J. M. Aikin¹ recommends the following régime for an attack of migraine: Food should be withheld and the gastric and intestinal contents eliminated. Emesis and gastric lavage are unfortunately objectionable. We may, therefore, limit ourselves to a soap-suds enema, followed by high irrigations with large quantities of hot normal-salt-solution. This, with small and oft-re-

¹ *Jour. Amer. Med. Assoc.*, XXXIX, No. 9.

peated draughts of hot water, continued for six to twelve hours, has given the best results in the author's hands. Between attacks, daily and copious drinking of water is very beneficial as a prophylactic measure.

Of course, ocular, aural, nasal, gynecological or rectal diseases which may underlie the migraine should receive due attention. When all else fails, morphine may be resorted to, and will be found efficient in soothing the nervous system.

ANTIARIN

Antiarin is a glucoside similar to digitalin, strophanthin, etc. It is obtained from *antiaris toxicaria*, a plant growing in Dutch India and employed by natives for poisoning darts and arrows. Antiarin is very strongly toxic. It arrests the heart of the frog in systole. Its weakest solutions still continue to affect the animal's heart.

Dr. C. L. Rumke¹ has employed antiarin in man and has found it to be distinctly tonic to the heart. By lessening the number of cardiac contractions, the drug enables the organ to beat with greater power and achieve more propelling work.

The rationale of the drug's action does not permit of its being classed with digitalis, notwithstanding the similarity of their ultimate therapeutic effects.

TREATMENT OF APPENDICITIS

Sir Lauder Brunton² some time ago introduced a new method of treating appendicitis: he uses sodium salicylate and belladonna in very high doses. Every two hours 15 to 20 grn. of salicylate and 10 to 15 drops of tincture of belladonna are administered. It is advisable not to give them simultaneously, and to watch the patient for the appearance of symptoms showing saturation: tinnitus for sodium salicylate; dry mouth, rapid pulse, and dilated pupils for belladonna. With their appearance the remedy should be either discontinued or the doses diminished.

SALINE INFUSIONS

The blood being the principal channel which carries toxic products through the system in cases of infection, it should be our main purpose, says Dr. Alfred Gordon,³ to attack the poisonous agent in the blood. This gives the rationale of antitoxin treatment. Unfortunately, but few efficient antitoxins have so far been discovered; other measures tending to weaken the toxic prod-

ucts in the blood are therefore resorted to, such as purgation, occasional blood-letting, and, last but not really first, saline infusions.

The introduction of saline infusion can be traced back to transfusion of blood as it was formerly employed in profuse hemorrhages. The method is now almost extinct, owing to the attending dangers and difficulties. It was soon found practicable to substitute for the blood an artificial fluid of similar chemical composition. This fluid, introduced into the circulation of the patient, would refill the vessels and supply the temporary substitute for lost blood.

Thus subcutaneous or intravenous injections of saline solutions have come to occupy their present important position in therapeutics. Occasional mishaps have been reported, it is true, but the technic rather than the principle was at fault. The quantity injected was frequently excessive, and abuse is no argument against use. The advantages of the method are sufficiently numerous to outweigh its drawbacks.

The field appropriated by saline infusions is large and steadily widening. Hemorrhages, whatever their source, supply the leading indication. Operative shock and diabetic coma offer frequent opportunities for using artificial serum. But an interest of its own kind attends the utilizations of saline infusions in treating infectious diseases. Cholera, of all others, but typhoid fever, pneumonia, and gastro-intestinal affections as well, have been favorably influenced by this method. The artificial serum dilutes the toxins in the blood and stimulates their active elimination along the natural channels. In gastro-intestinal disorders the saline fluid allays the cerebral irritative phenomena, and has left a brilliant record in some instances of meningitis.

The author reports a case in question. The patient was a child five months old. Severe meningeal symptoms supervened in the course of a gastro-intestinal affection. Normal-salt solution was administered through an ordinary hypodermic syringe fitted to a fountain bag. Half an ounce of the fluid was allowed to flow in, and produced a noticeable change for the better. The injection was repeated and supplemented by a rectal saline enema. The child gradually recovered. Among the first effects of the infusion, an increased amount of urine passed was perhaps the most important and encouraging. The stimulating action on circulation and nervous system was also unmistakable.

The author says that when the immediate reaction of the saline infusion (elevated temperature and accelerated pulse) is insufficient, repeated infusions are indicated.

¹ *Rev. de Therap.*, LXIX, No. 10.

² *La Sem. méd.*, XXII, No. 33.

³ *Therap. Gazette*, XXVI, No. 8.

VARIOUS USES OF DIONIN

Numerous recent reports point to the utility of dionin as a substitute for morphine. Besides, the new remedy has found a fresh field of activity in diseases of the eye. Dr. Baucke¹ reviews the literature on dionin, and recommends it as a successor to morphine. The new drug is analgesic, sedative, and hypnotic in action. It has rendered excellent services in diseases of the nervous system, in pulmonary affections like emphysema, asthma, phthisis, and also in the whooping-cough of children. No other remedy has given equally gratifying results in this affection. The average dose of dionin is $\frac{1}{6}$ to $\frac{3}{8}$ grn. In cases which resist its action recourse will have to be had to morphine.

A peculiar property of dionin, its ability to excite an increased flow of lymph as well as to produce local anesthesia of the eye-structures, has led to its employment in ophthalmology. It is useful in the pains of glaucoma, iritis, etc., which generally resist all other local anesthetics. It is, furthermore, valuable in promoting the absorption of inflammatory products in the eye, and also whenever the certain action of atropine is desired. Dionin is employed in the form of eye-drops in solutions of 2 to 5 per cent. strength, or it may be applied to the eye in powder form.

Among many other applications, dionin has of late been utilized largely in gynecological therapeutics. Dr. O. Frankl² writes on his experience with the remedy. Favorable results were seen in cases of dysmenorrhea, the drug promptly relieving the painful condition. Tablets containing $\frac{1}{2}$ grn. were employed in some cases; in others dionin was given in the form of a suppository containing $\frac{3}{8}$ grn. of the remedy. Dionin may also be prescribed as follows.

Dionin..... 8 grn.
Cherry-laurel Water..... 5 drams
Fifteen to twenty drops, several times daily.

The author recommends the drug especially in the dysmenorrhea of young girls, when any kind of treatment other than symptomatic is so often out of question. Equally valuable are the services rendered by dionin in adnexal affections, like pyosalpingitis, parametritis, etc. The author employs vaginal suppositories containing ichthyol and dionin in the following combination:

Dionin..... $\frac{1}{2}$ grn.
Ichthyol..... 3 grn.
Cacao Butter..... $\frac{1}{2}$ dram

For one vaginal suppository.

The analgesic action of this combination is very prompt and marked.

On the other hand, the author cautions against the employment of tampons soaked in a dionin solution, lest the ready absorption through the vaginal mucosa result in toxic symptoms.

In a case of rectal abscess the author employed suppositories of dionin with good effect:

Dionin..... $\frac{1}{2}$ grn.
Bismuth Subgallate..... 5 grn.
Cacao Butter..... $\frac{1}{2}$ dram

To be inserted after an antiseptic irrigation of the lower bowel.

To judge from the author's experience, we possess in dionin an extremely valuable symptomatic remedy in gynecological affections.

TREATMENT OF LOCOMOTOR ATAXIA

A contemporary¹ thus editorially outlines the treatment of this disease, regarding which we are almost as much in the dark as we were fifty years ago. Whatever the form of tabes, the treatment must begin early if any improvement is to be expected, or the gray degeneration of the posterior tracts of the spinal cord will advance to a point where little or nothing can be done. If we suppose, for sake of argument, that the disease is initially of the small blood-vessels in the posterior roots, the greater is the necessity of treatment. Whatever the origin, whatever the stage of the disease, the patient must be assured a definite amount of rest—physiological rest—in bed or on a couch for several hours each day. If early in the disease, the rest should be absolute for a number of weeks with the usual adjuncts of the rest-cure, complete or modified according to circumstances. The acute stage will often respond quickly to treatment, leaving a minor lesion behind it; the later stages will improve, and many of the annoying symptoms subside permanently or for a time, relative to the after-care and life of the individual. If baths are employed, they should consist of hot tub or hot sprays gradually cooled down until the stimulant effect of the cold is evident. Prolonged hot baths or pack should be employed only in those in good physical vigor, then followed by one or two hours' rest in bed. In some cases the salt rub, followed by a warm sponge or tub bath, is refreshing and grateful.

Electricity is of more or less service, and is valuable as an agent in the variation of treatment to keep the patient in line and under orders and observation. Galvanism applied over the body generally is soothing,

¹ *Psychiatr. Neurológ. Woch.*, 1902, No. 6.

² *Therap. Monatshefte*, xvi, No. 6.

¹ *Northwest. Lancet*, Sept., 1902.

and may divert the circulation of the cord indirectly. Faradism is much more satisfactory, and serves the double purpose of giving electricity and massage, if administered over the muscles with a roller electrode. It has at times a sedative effect upon the lightning pains when not extreme or severe in their paroxysms.

Massage and Swedish movements are particularly beneficial if properly used under the direction of the physician and adapted to each individual case. When indiscriminately ordered, more harm than help may be expected. The tabetic should be urged to rest rather than exert himself, hence the necessity of properly directed movements which may ultimately lead to the adoption of the Frankel system of exercises to restore or re-educate the incoördinate muscle groups.

The patient who, by force of circumstances, is unable to give the time and attention to the relief of his tabes, is unfortunate in the extreme. He must accept the rest-cure as far as possible, give himself up at odd moments and before and after the work of the day is ended, deny himself most of the minor pleasures of the laborer, and take his treatment when convenient.

He will seek aid by drugs of all kinds, and will in the end be disappointed. Granting that his tabes is the result of syphilis, the specific remedies may promise relief and cure, yet in the majority of cases they are useless, or, at most, temporary in their good effect. When the tabes is unquestionably the outcome of nervous syphilis, the mercurials and iodides must be employed and pushed to tolerance, hoping for a favorable outcome.

The other measures for the relief of ataxia are numerous and usually worthless. Suspension, nerve stretching, and the cautery are only occasionally successful in doubtful or pseudo forms of the disease. The continual employment of the salts of gold and silver, unless combined with the other measures advocated, are questionable in their effects. From 8 to 10 grn. of sodium salicylate, with $\frac{1}{2}$ to $\frac{3}{4}$ grn. of fresh extract of cannabis indica, given two or three times a day, are frequently beneficial in the annoying pains. Phenacetin, antipyrine, methylene blue, and similar preparations are useful as alternates. In the majority of cases a stronger sedative or opiate is demanded, and it is wiser and safer to lead up to morphine by the use of the milder salts, heroin in from $\frac{1}{24}$ to $\frac{1}{6}$ grn. doses; dionin in from $\frac{1}{6}$ to $\frac{1}{2}$ grn., and codeine $\frac{1}{4}$ to 1 grn.

Postpone the use of morphine indefinitely

if possible, but if imperative give the smallest possible dose for relief, and suspend it as quickly as practicable, substituting the milder drugs. In occasional cases the hypodermic daily use of strychnine, in gradually increasing doses, beginning with $\frac{1}{20}$ grn. and up to $\frac{1}{4}$ grn. once a day, will act as a sedative, and thus relieve the physician, and keep the patient free from the morphine habit.

Rest, quiet and measures to build up the patient is the treatment of locomotor ataxia.

ANTHELMINTIC REMEDIES

Dr. Sobotta¹ has conducted a series of clinical experiments which have led to the following results: Pelletierine tannate has been a disappointment. Male fern, in doses of $1\frac{1}{2}$ to 2 drams of the extract, has succeeded after the former has failed. This dose is sufficient for adults if the intestines have been previously evacuated. After administering the drug, purgatives are indicated in order to prevent intoxication. It must remain an open question whether castor oil favors intoxication or not. Preliminary fasting seems to insure favorable results. A preparatory diet is not necessary.

COCAINE IN METATARSALGIA

Dr. H. Verger² has used cocaine by injection in a case of Morton's disease without osseous lesions. After numerous internal remedies had failed to give relief, the author injected 16 min. of a 2-per-cent. cocaine solution into the painful spot, pushing the needle down to the bone. Prompt relief followed. Another injection became necessary only five weeks later, and since then patient has been free from pain, while formerly he suffered from very frequent attacks.

TREATMENT OF NEURALGIA OF THE BLADDER

The causes of cystalgia or neuralgia of the bladder are many, states Dr. G. Frank Lydston.³ Repeated and prolonged masturbation, coitus, prolonged sexual excitement without gratification, prolonged retention of urine, exposure to cold, disease of the anterior or posterior urethra, hemorrhoidal disease, fissure and fistula, kidney disease, disease of the neighboring organs, etc., are the principal etiological factors. Severe cystalgia is also one of the symptoms of locomotor ataxia, and neuralgia of the testicle is very likely to be associated with it.

The pain is of variable intensity, and may

¹ *Therap. Monatsh.*, xvi, No. 8.

² *La Sem. méd.*, xxii, No. 34.

³ *Jour. Amer. Med. Assoc.*, xxxix, No. 8.

radiate through the hypogastrium, groins, thighs, perineum, rectum, back, and testes. In some instances the pain is limited to the hypogastrium. There are associated with the pain, tenderness on hypogastric palpation and vesical tenesmus under the influence of even a small quantity of urine.

Pain is especially severe at the end of micturition, as might naturally be expected from the compression of the hyperesthetic nerve-supply of the bladder wall and mucosa as the bladder contracts. There may be considerable tenderness of the deep urethra on rectal palpation, or, in the case of the female, on vaginal palpation. Priapisms may occur to a greater or less extent. Frequent micturition is not unusual.

The first indication in the treatment, once the diagnosis is established, is obviously the cure of any organic condition which may be found. Care should be taken not to treat too radically lesions of the urinary way, the mildness of which is out of all proportion to the severity of the neuralgic manifestations. In treating morbid conditions of the genito-urinary apparatus which are associated with a disproportionate amount of pain in the bladder, it is always advisable to warn the patient that the neuralgia is likely to continue with a greater or less degree of severity and stubbornness for a greater or less period after the removal of the primary condition. The immediate indication is the relief of pain.

The narcotics, in general, are useful. The various preparations of opium, taken hypodermically, by suppository or enema, are the most important remedies. Aseptic solutions containing laudanum may be injected into the bladder and urethra where the mucous membrane is known to be free from lesions which might produce dangerous absorption of the opium. The instillations of very weak solutions of eucaïne, cocaine, or menthol into the deep urethra and vesical neck are often of extreme service in emergencies of pain. Hot applications sprinkled with laudanum may be applied to the hypogastrium. An excellent means of equalizing the circulation and tranquilizing the nervous system of the bladder is the prolonged and frequently repeated hot sitz-bath. Belladonna and stramonium, used by enema or suppository, are exceedingly efficacious in the control of the vesical pain.

The general treatment is by far the most important, for immediate relief is always available by means of opiates. Sexual irregularities require attention; general nervous irritability should be controlled by sedatives, such as gelsemium, the bromides of potassium, sodium, and camphor. Where

the neuralgia depends on general debility or anemia, these conditions require the usual tonic and hemogenic measures. The gouty and rheumatic diatheses require treatment along the lines which are usually followed in the therapy of these conditions. Arsenic and strychnine are very valuable remedies in cases in which there is a gouty tendency to neuralgia in various situations. Arsenic is especially indicated in cases in which the malarial cachexia exists, and should be combined with quinine and iron.

TROPACOCAINE FOR SPINAL ANALGESIA

Dr. Karl Schwarz¹ reports his experience in 100 cases of spinal anesthesia by means of tropacocaine injections. Since the introduction of the new method, cocaine having been used, it was generally regretted that the various untoward effects prevented spinal analgesia from superseding general anesthesia more completely than had been the case.

Later, substitutes for cocaine were sought, which would not be followed by such troublesome after-symptoms, and for a time eucaïne enjoyed quite a reputation as equally efficient and less toxic than cocaine. A step still further in this direction has been taken with the introduction of tropacocaine. Its use for the purpose of producing spinal analgesia is nearly free from untoward after-effects. These, if they occur at all, are mild and transient.

The author is highly satisfied with the results obtained in his use of tropacocaine injections in surgical cases.

The average quantity of tropacocaine requisite is about $\frac{3}{8}$ grn., and up to 1 grn. as the maximal dose in adults. In young persons (under seventeen years) $\frac{3}{8}$ grn. is sufficient. The field of complete analgesia may reach up to the navel or even up to the ribs; above that only a reduced sensibility to pain is present.

The following operations were performed under "medullary narcosis:" Resections of the feet, amputations of the leg and of the thigh, resection of the knee-joint, extirpation of inguinal glands, colporrhaphy, ventrofixation, urethrotomy, radical operation for hernia, amputation of the mamma, etc. No laparotomies. The subjective and objective after-effects were either absent altogether, or mild in character, and consisted in vomiting, headache, rise of temperature, etc.

While not a harmless method, especially if the normal dose of tropacocaine is exceeded, spinal analgesia should, in the author's opinion, be preferred to general narcosis whenever possible.

¹Münch. med. Woch., 1902, No. 4.

PYRIDINE IN WHOOPING-COUGH

The good effects produced by inhalations of pyridine in asthma encouraged Prof. G. Mya¹ to try the remedy in pertussis. Twice daily a dram of pyridine was placed in a saucer at the foot of the patient's bed. Internally, the bromides of potassium, ammonium, and strontium were prescribed, 16 to 48 grn. daily for children under three years of age, 1 dram to older children. The mixture is very well tolerated by the youngest infants, and forms an excellent adjuvant to pyridine in its sedative action. Under this treatment the little patients recovered rapidly and without complications. Pyridine is not merely a sedative to the medulla oblongata, but also an efficient germicide, reducing the number of microbes in the surrounding air.

TREATMENT OF BURNS

Burns, says Dr. J. C. Biddle,² are of all accidents the most painful and agonizing, and their management deserves the most attentive consideration. It is remarkable that no definite local treatment for burns has been established, notwithstanding their greater frequency in modern times, due to the use of steam and electricity. The number of remedies used and recommended is legion. Perhaps the most widely known remedy is "carron oil, a mixture of lime-water and linseed oil, so-called from the Carron Iron Works in Scotland, where about 2,000 men are employed, and where the mixture was first used.

Sodium bicarbonate is another popular remedy, and may be dusted on a scalded area or applied in paste form to a burn. A saturated solution of picric acid has many advocates. It is said to prevent ulceration, to bring prompt relief, and effect a rapid cure. According to Leistikow, ichthyol at once relieves pain when applied to burns. Airol is also praised as prompt and unirritating.

The author has no faith in all these empirical procedures. He mentions a fatal case of lead-poisoning due to the use of a lead-ointment on the burns of a child, and cautions against salves of similar composition, when used for long periods of time. The usual classification of burns is of little value in the treatment, though it does enable us to make a prognosis in reference to a resulting scar. Disfigurement is inevitable in deep burns, followed by sloughing away of tissues. Most cases, however, when properly treated, will escape much disfigurement.

In fatal cases death is most frequently

due to shock, and hence our treatment should be directed towards keeping up the circulation and respiration. Strychnine, digitalis, ammonia, and whiskey are indicated, with morphine or codeine for the pain, and bromides or chloral for sleeplessness.

Externally, the author employs a mixture of lead carbonate, sodium bicarbonate, powdered acacia, and linseed oil, made thin enough to spread well on cotton flannel [exact proportions not given by the author.—Ed. M. A.]. This he finds to be superior to all other applications. Properly used, it prevents scarring. The mixture is applied on flannel so as to make an impervious protection to the surface, and is held in position by a roller bandage. All devitalized skin should be cut away at once. A good dressing is a better protective than dead tissue. The dressing is changed as often as necessary. When the granulations get too high, salicylic acid is dusted over the surface. The lead dressing is continued for ten days or two weeks. Skin-grafting is indicated early when much tissue has been destroyed, or in burns near tendons. The addition of acacia to the author's mixture seems to obviate the danger of lead-intoxication. Should symptoms of the latter supervene, magnesium sulphate is given.

For the diarrhea, bismuth, salol, and creosote are the usual remedies. Pneumonia and sepsis are frequent complications in fatal cases. Duodenal ulcer is an interesting sequel, coming on occasionally about the ninth day after the accident.

ARSENIC IN PHTHISIS

Dr. H. Cybulski¹ reports his experience with hypodermic injections of arsenic in pulmonary tuberculosis. He has employed this method in ten cases, all not too far advanced to make improvement impossible, and all presented subfebrile temperatures. The mixture used was:

Sodium Arsenate..... 0.2 (3 grn.)
Carbolic Acid (½% solut.) 20.0 (5 drams)

The injections were administered with a hypodermic syringe, commencing with 1½ min. (0.1 Cc.) and increasing by 1½ min. at first daily, later every second day, until at the end of two weeks a syringe-ful could be injected. Twenty injections were made. If success was noted the same course was repeated two to three weeks later. The injections are, as a rule, not painful if the fluid is warm. Local infiltrations sometimes follow large doses. Four patients in the series showed unmistakable effects of the treatment, while the remaining six were unaffected by it.

¹ *La Sem. méd.*, XXII, No. 34.

² *Penn. Med. Jour.*, v, No. 11.

¹ *Münch. med. Woch.*, XLIX, No. 33.

The author's observations are in detail: (1) Arsenous acid, administered as above, temporarily reduces the temperature; (2) the bodily weight increases under the treatment; (3) the appetite is favorably influenced, though less strongly than by the internal use of arsenic; (4) the general subjective condition always improved; (5) the intestinal tract showed no effects of arsenic; no diarrhea was observed; (6) sweats were favorably influenced; (7) no effect was manifested on kidneys and heart; (8) the pulmonary process remained totally unaffected by the treatment.

GUAIACOL IN MUMPS

Dr. E Grande¹ has utilized the analgesic and antiseptic properties of guaiacol in epidemic parotitis. An ointment containing 5 per cent. guaiacol was rubbed into the parotid region several times daily, the swelling covered with carbolated cotton and firmly bandaged. Twelve cases were thus treated. The swelling began to diminish after the second or third dressing. Pain and difficult mastication were overcome. No eczema or pruritus followed, as often seen after applying guaiacol to the scrotum. The good effects, according to the author, are due not only to the analgesic action of the guaiacol, but also to the antiseptic properties that its vapor exerts on the buccal and pharyngeal cavities.

The Creosote Question

The question of restricting the word "creosote" solely to true, wood-tar creosote, as advocated by the American Pharmaceutical Association last year, was reviewed in a paper read by Wm. Mittelbach at the recent meeting of the American Pharmaceutical Association. The author stated that "but little advance has been made toward adjustment. It did seem that after the steps taken by the American Pharmaceutical Association last year, and followed closely by Merck & Co. in obtaining the hearty co-operation of manufacturers and jobbers, that order would come out of chaos, and the word 'creosote' would soon mean but one thing. It was hoped that our manufacturers, jobbers and pharmaceutical journals would drop the coal-tar creosote from their price-lists. Such action would have helped very much and in a few years the buyer of drugs and chemicals would know nothing about such a product."

But most of the lists "quote the coal-tar creosote just as before. One has it 'Commercial Creosote,' another quotes it 'German

Creosote,' and still another, the 'white' from coal-tar. So long as this condition exists, there will be very little hope that the question will be settled. The great difference in price will always attract the unscrupulous buyer. The American Pharmaceutical Association has taken the proper stand in the matter; and Merck & Co. have the moral courage to stand by this decree, and there is no valid reason why all should not pursue the same course."

"The word 'creosote' used in connection with any other product except that from beechwood should be made a violation of law. The author asked a salesman if he had any demand for coal-tar creosote? He informed him that he had not under that name, but does have under the prices quoted.

"Many pharmacists and physicians will take up the price-lists and buy the cheaper products, regardless of the derivation. They seem to care nothing for quality. This same salesman related an incident where he sold a physician-druggist a pound of creosote, and rightly delivered the beechwood product. Upon his return, the physician informed him that he did not intend to pay \$1.10 for it when he can buy any amount at 40 cents to 50 cents per pound. He cared nothing for the difference in medicinal properties; had used this other for thirty years, and would have been offended had the salesman tried to explain the matter. As a good salesman, however, he wisely kept his counsel, and made the exchange for the doctor. Such incidents may bring a smile upon the faces of college men and scientists, but they are facts, nevertheless, and the jobber and retail pharmacist bumps up against them every day, and principally for the reason that the article is so conspicuously quoted. If coal-tar creosote must be manufactured, let it be done quietly and without flourish of trumpet. Don't tempt the unscrupulous dealer or consumer by low prices. Let all cease to quote the article and watch the result. It is the price that keeps it in use, and not the merits of the article."

As a result of the reading of the foregoing paper, the following action was taken by the Scientific Section before which the paper was read:

Resolved, That the American Pharmaceutical Association protests against the continued use of "coal-tar creosote" under that name; also,

Resolved, That the name "Creosote" be confined to that derived from "Beechwood"; and that manufacturers and wholesalers be requested to drop coal-tar creosote, under that name, from their price-lists.

Resolved, also, That a copy of these resolutions be forwarded to the Section on Materia Medica of the American Medical Association and to manufacturers and wholesale dealers in drugs.

¹ *La Sem. méd.*, xxii, No. 34.

MERCK'S ARCHIVES

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FOR THE GENERAL PRACTITIONER

Including a "Complete" and Unbiased Review of

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OCTOBER, 1902

EDITOR'S NOTES

Rudolph Virchow

RUDOLPH VIRCHOW, the grandest scientist of the nineteenth century, is no more among the living. Yet he is not dead. Such men are immortal. It would be almost a sacrilege to attempt to give even an outline of this great man's work in the limited scope of an editor's note. In another column we reprint the utterances of two of our leading American medical journals on the death of Virchow. For the present we are constrained to say simply: "Peace be to his ashes!"

* *

Is It an Advantage to Be Born of Tuberculous Parents?

MORE than once we have called attention to the fact that less and less significance is now ascribed to heredity as a factor in tuberculosis. The inheritance of the disease itself is so exceptional as to deserve no consideration, and inheritance of a disposition to tuberculosis is getting more and more questionable. But some physicians are going a step farther, and claim that tuberculosis in the parents induces a kind of immunity in the children, which protects them to a degree from the inroads of the tubercle bacillus. Dr. Herbert Maxon King's study of the subject and his conclusions are very interesting. He has investigated the full family histories and kept a careful record of his observations in 242 cases, chiefly in his private practice. Of these 242 cases, the parents, one or both,

were tuberculous in 60 instances only (25 per cent.), while in 182 instances (75 per cent!) the parents were non-tuberculous. Of the 242 cases, 103 terminated fatally. It is rather noteworthy that the average duration of the disease from its apparent incipency to the fatal termination was, in the cases of tuberculous parentage, four years, while in the cases of non-tuberculous parentage it was 2.9 years, a difference of more than a year in favor of those having a phthisical parentage.

* *

The Vital Force Theory

Is life, as we see it, simply the result of physical and chemical changes, or is there a special force, a special power, which we can never hope to analyze? Up to about 1828 nobody questioned the existence of a special vital force which produced peculiar vital phenomena and peculiar substances termed organic in contradistinction to inorganic substances. The first blow to the vitalistic theory was delivered by Wöhler when he produced urea—a substance which up to that time it was thought could be produced by an animal organism only—artificially from ammonium cyanate. The numerous synthetic compounds which were then produced in rapid succession served to further weaken the vital force theory, and beginning with the sixties that theory was discredited by the best thinkers.

During the past decade a reversion to the vital-force theory has made noticeable progress among many earnest thinkers. The physico-chemical theory does not seem to give full satisfaction. It is interesting to hear what a noted physiologist has to say on this return to favor of the vitalistic theory: "The revival of the vitalistic conception in physiological work," said Prof. Halliburton very recently, in his address to the British Association for the advancement of Science, "appears to me a retrograde step. To explain anything we are not fully able to understand in the light of physics and chemistry by labeling it as vital, or something we can never hope to understand, is a confession of ignorance, and what is still more harmful, a bar to progress. It may be that there is a special force in living things that distinguishes them from the inorganic world. If this is so, the laws that regulate this force must be discovered and measured, and I have no doubt that those laws when discovered will be found to be as immutable and regular as the force of gravitation. I am, however, hopeful that the scientific workers of the future will discover that this so-called vital

force is due to certain physical or chemical properties of living matter which have not yet been brought into line with the known chemical and physical laws that operate in the inorganic world; but which, as our knowledge of chemistry and physics increases, will ultimately be found to be subservient to such laws."

Such an attitude in reference to vital problems appears to be infinitely preferable to that which too many adopt of passive content, saying that the phenomenon is vital and there is an end of it. When a scientific man says this or that vital phenomenon cannot be explained by the laws of chemistry and physics, and therefore must be regulated by laws of some other nature, he most unjustifiably assumes that the laws of chemistry and physics have all been discovered. He forgets, for instance, that such an important detail as the constitution of the proteid molecule has still to be made out.

The Christian Scientists

THE following editorial note from that sterling paper, the *New York Times*, is so good that it cannot be improved upon. The *Times* does not mince words when it speaks of the "Christian Scientists," and the medical profession owes it a debt of gratitude for its consistent and unequivocal attitude, and for its tireless efforts in exposing them.

"That death is rather less than more a specter of persons when the persons happen to be 'Christian Scientists' is a fact as well known—to those who have given the matter any attention—as it is easily explicable by the added perils to life involved in the practices, some stupid, some criminal, and all absurd, taught by the Eddy woman. When, however, as has just happened in Denver, a man dies in one of the sect's 'churches' while taking part in the Eddyite 'service,' surrounded by a congregation as firmly convinced as himself that both death and disease are mere 'mortal thoughts,' without any reality at all for the enlightened, and with only a pseudo-reality for others—then the grotesque imbecility of this most abominable cult is illustrated strikingly, indeed. The man who thus demonstrated the limitations of suggestion to the only people silly enough to believe—or pretend to believe—that the powers of suggestion are limitless, was a victim of tuberculosis. For ten years, thanks to the climate of Colorado, he had been able to go about declaring himself 'cured' by his faith in denials. Meanwhile he had slowly wasted away, the disease taking its usual course when neglected, and the final, fatal hemorrhage came when, in company with

his fellow-fanatics and their shrewd exploiters, he was proclaiming the superiority of 'faith' to the science of the doctors. Meanwhile, of course, this man had been for ten long years an ambulant center of infection. It is this circumstance that makes the incident something more than picturesque. The death of a 'Christian Scientist' is in itself no more of a loss to the world than the death of any other ignorant and deluded person; that is, it is no loss at all when the ignorance and the delusion are irremovable. Such they usually are in the case of the Eddyites, since people with a glimmer or seed of reason to which appeal can be made never get into that pestilential slough."

Nothing New Under the Sun

IN a previous issue of the ARCHIVES we showed that gelatin as a hemostatic was known more than a century ago. Dr. Y. Miva, a Japanese physician, now claims that the hemostatic properties of gelatin were known and made use of by the Chinese more than 1600 years ago. Mention of the subject is to be found both in Chinese and Japanese literature. The gelatin was prepared from the hides of cattle, and was applied to the bleeding part in the form of a solution or a powder. It was employed in nasal, dental, urethral, uterine, and rectal hemorrhages.

What is Naturopathy

WE thought that naturopathy meant treating by so-called natural methods; that is, by hydrotherapy, thermotherapy, fresh air, massage, and proper diet. A naturopathic editor is indignant at this narrow definition and tells us that naturopathy includes the following:

"Pure Love, Soul-Marriage, Pre-natal Culture, Painless Parturition, Passionless Fatherhood, Natural Babyhood, Child Culture, Astrology, Phrenology, Vocation Training, Individual Education, Higher Physical Culture, Dietetics, Hydropathy, Rejuvenative Breathing, Heliotherapy, Thermotherapy, Aerotherapy, Geotherapy, Osteopathy, Mechanotherapy, Electrotherapy, Hesukotherapy, Kneipp-Cure, Just-Cure, Magnetic, Mental and Divine Healing, Therapeutic Vibration, Suggestion and Hypnotism, New Thought, Self-Culture, Mental Regeneration, Physical Immortalism, Spirit-Unfoldment, God-Consciousness."

Oh, my! We are really overwhelmed and overawed. And what is the matter with drugs? Are not drugs nature's products? Are not they, therefore, natural?

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

Syrup of Wild Cherry Comp.

Dr. W. L. W. writes: Could you furnish working formula for the following syrup of wild cherry comp.?

Each fluid dram contains:

| | |
|---------------------------|-----------|
| White Pine Bark | 2½ grn. |
| Balm Gilead Buds..... | 2 grn. |
| Spikenard | 2 grn. |
| Wild Cherry Bark..... | 1¾ grn. |
| Ipecac..... | ¼ grn. |
| Sanguinarine Nitrate..... | 1/64 grn. |
| Chloroform..... | ½ min. |
| Morphine Acetate..... | 1/16 grn. |
| Ammonium Chloride..... | ½ grn. |

On a large scale, such preparations are generally made as follows: The drugs are ground and percolated; in the percolate sugar is dissolved; the alkaloids, chemicals, salts, etc., are dissolved separately in water, or in a mixture of water, alcohol, glycerin, and mixed with the syrup previously obtained. The mixture is allowed to stand for a couple of days and then filtered. On a small scale the fluid extracts of the various drugs may be used, mixed with syrup or simple elixir, and then with a solution of the sanguinarine nitrate, morphine acetate, and ammonium chloride. The chloroform is best added in the form of spirit of chloroform.

Tannate of Mercury in Syphilis

Dr. R. N. W. K. H.—To the best of our knowledge, tannate of mercury is used for syphilitic affections only. It is used in ointment form for syphilitic ulcers in gummata, chancres, etc.; it may also be administered internally per os, and hypodermically. One dram to the ounce is about the proper proportion.

Compound Fluid Extract of Buchu

Dr. L. M. D. writes: Please give me some information regarding the following:

| | |
|------------------------|---------|
| Fl. Ext. Buchu..... | 8 parts |
| Fl. Ext. Juniper..... | 2 parts |
| Fl. Ext. Cubeb..... | 2 parts |
| Fl. Ext. Uva Ursi..... | 2 parts |

On mixing the above fluid extracts, a precipitate forms. Will you inform me of what this precipitate consists, and whether its removal by filtration will affect the therapeutic activity of the preparation; and whether it is possible to avoid this precipitation and make a clear solution, by means of any added menstruum? Will spirit of nitrous ether, or potassium acetate or potassium citrate, be compatible with this preparation?

The precipitation in question is referable to the fact that different menstrua are used in preparing the above fluid extracts. The deposit may perhaps be dissipated by the addition of alcohol; and it is possible that it contains more or less of the active principles of the drugs. We would advise adhering to the formula given in the National Formulary for preparing compound fluid extract of buchu.

Spirit of nitrous ether has been described as being incompatible with fluid extract of buchu. The latter contains a considerable proportion of tannin, which has been observed to eliminate from the spirit a gas heavily charged with some nitrous compound, often in sufficient volume to blow out the corks or burst the bottles. It was first supposed that the reaction was due to the pressure of free acid in the spirit of niter; but it has since been shown by the same investigator that a similar result is obtained by the use of a perfectly neutral spirit.

We see no reason for considering potassium acetate or potassium citrate as incompatible with the compound fluid extract; the acetate being freely soluble both in water and in alcohol, is pharmaceutically preferable. Potassium citrate, while being very readily soluble in water, is but sparingly soluble in alcohol, and, if added in large quantities, would not dissolve.

Painful Bunions

Dr. F. H. B. asks for a treatment for painful bunions; he has tried iodine and aconite, salicylic acid, and several other preparations, but in vain.

We have found the following ointment to give satisfaction in cases of specially painful bunions:

| | |
|------------------|---------|
| Ext. Opium..... | 15 grn. |
| Tannic Acid..... | 15 grn. |
| Ichthyol..... | 4 dr. |
| Lanum | 4 dr. |

Apply freely to bunion.

According to Dr. J. V. Shoemaker, copper oleate melted and spread as a plaster, will often cure warts, corns, bunions, and thickened conditions of the epidermis. Lead and opium wash is also frequently an effective means of relieving painful inflamed bunions.

Properties and Uses of the Glycerinophosphates

Dr. C. L. S. requests us to publish information regarding the various glycerinophosphates—their physical properties and therapeutic indications.

Glycerinophosphoric acid (also known as glycerophosphoric, phosphoglyceric, or phosphoglycerinic acid), $\text{H}_2\text{PO}_4\text{C}_3\text{H}_5(\text{O}-\text{H})_2 + \text{aq.}$, occurs as a pale-yellow, oily, odorless liquid, of a sour taste, and soluble

in water or alcohol. It is obtained commercially from glycerin with phosphoric acid. The natural source is a decomposition product formed during digestion. Lecithin, the chief phosphorous constituent of food, is decomposed in its passage through the system into choline and glycerinophosphoric acid. The latter thus represents the form in which phosphorus is assimilated.

Glycerinophosphoric acid is not used medicinally by itself, but is exhibited only in the form of its salt—chiefly the glycerinophosphates of calcium, iron, lithium, magnesium, potassium, quinine, and sodium.

Calcium Glycerinophosphate, $\text{CaPO}_4\text{C}_3\text{H}_5(\text{OH})_2$, occurs as a white, crystalline powder soluble in about 40 parts of cold water, but almost insoluble in hot water or in alcohol. Boiling its concentrated cold solution causes precipitation of abundant floculi of the compound, which dissolve again as the water cools. It is the salt of glycerinophosphoric acid used most, and is prescribed where lime and phosphorus are required—in rachitis, wasting diseases, and convalescence from acute affections of a serious character. The dose is 2 to 5 grn. three times a day, in syrup or solution.

Iron Glycerinophosphate, $\text{FePO}_4\text{C}_3\text{H}_5(\text{OH})_2 + 2\text{H}_2\text{O}$, occurs as greenish yellow scales or powder; soluble in water and in diluted alcohol. It is employed in the treatment of chlorosis and anemia with insufficient oxidation of nitrogenous food. The dose is 2 to 5 grn. thrice daily, in cinnamon water.

Lithium Glycerinophosphate, $\text{Li}_4\text{PO}_4\text{C}_3\text{H}_5(\text{OH})_2$, occurs as a white, crystalline powder, readily soluble in water. It is employed in cases where both lithium and phosphorus are indicated.

Magnesium Glycerinophosphate, $\text{MgPO}_4\text{C}_3\text{H}_5(\text{OH})_2$, is a light-colored powder; freely soluble in water.

Potassium Glycerinophosphate is an extremely hygroscopic substance, and hence appears on the market in 75 per cent. solution—a thick liquid, or a mass, freely soluble in water. It is adapted to subcutaneous use.

Quinine Glycerinophosphate, $\text{C}_3\text{H}_7\text{O}_3\text{PO}_4(\text{C}_{20}\text{H}_{24}\text{N}_2\text{O}_2)_2$, occurs as small, white, acicular crystals which are sparingly soluble in water but more readily in alcohol; it contains 68 per cent. of quinine. This salt is used more especially for combating attacks of malaria associated with impoverished nutrition and nervous disturbances. Its use has been recommended also in cases of neuralgia and during convalescence after serious febrile affections. It is best given in

the form of pills, in doses of 3 to 5 grn. three times daily.

Sodium Glycerinophosphate is met with on the market, owing to its deliquescence, mostly in 75 per cent. strength. It is freely soluble in water and is used largely hypodermically. The dose per os is 4 to 10 grn. three times daily, in sweetened mixture; subcutaneously, 3 or 4 grn. daily.

Glycerinophosphates must not be brought into contact with carbonates, phosphates or lead salts, as decomposition may ensue. Their solutions can be kept for a length of time only in a sterilized condition. Syrups and other preparations of them should be made only in small quantities at a time.

Compatible if Made Up Properly

Dr. J. P. C. sends a prescription, long known and used often as a remedy in throat troubles—tincture of iron, potassium chlorate, glycerin, and water—wanting to know what chemical action takes place when the potassium and glycerin are used, and if the combination is really dangerous.

The prescription is perfectly compatible, and is in every-day use by thousands of practitioners. If the tincture of iron is poured directly on the potassium chlorate there is occasionally a liberation of chlorine; but if made up in the ordinary way—that is, first dissolving the potassium chlorate in the water, and then adding glycerin and tincture of iron—no chemical reaction takes place.

The idea that exists in some minds as to the incompatibility of these ingredients is due to misapprehension.

Formaldehyde for Irrigating the Bladder and Urethra

Dr. A. B. M. asks in what strength formaldehyde is used for irrigating the bladder and urethra.

Dr. Lamarque has used, with good effect, 1:500 solution of the commercial solution of formaldehyde by irrigation in cases of tuberculous and purulent cystitis from various causes; that is, a solution such as is obtained by adding a tablespoonful of formaldehyde (as supplied in the market) to a quart of water.

Arsenic Iodide and Sodium Cinnamate

Dr. E. P.—The best way of administering iodine arsenic and cinnamic acid is in the form of arsenic iodide and sodium cinnamate. These two substances go very well together in pills or capsules, and as they are both soluble in water, they could also be used subcutaneously. In the latter case, however, the solution would have to be freshly prepared each time, as decomposition would probably ensue rapidly.

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

The Death of Professor Virchow.—The death of Virchow removes from the active rolls of science and the medical profession one of its greatest names. Many, perhaps the majority, would say without any reservation that his was the greatest name of all. We know what he was in medicine, but he was illustrious in other lines; his wonderful and versatile ability was not concentrated alone on scientific medicine; he was great as an archeologist and anthropologist and also as a statesman and philanthropist. From the revolutionary year 1848, when he first entered the political field, till his death his interest in public matters never failed, thus demonstrating that the highest scientific labors and attainments were in him perfectly compatible with active engagements in the highest duties of citizenship. What he has done for his country as a legislator is little known to most of those to whom his scientific reputation is familiar, and not all have even a comprehensive idea of the extent and range of his work as a man of science. It was a saying in Berlin that "when he died it would be found that he was not one but four men," and this is still more true for the world in general than for his own townsmen and countrymen. How he coordinated patriotism with scientific breadth of view is well known in many ways; he loyally served his country but refused to sever his scientific association with the French when requested to do so after 1870. His appreciation of the best work had no local limitations; he taught other countries than his own to recognize the merits of their own forgotten discoverers, and he could be an unsparing critic when he thought his countrymen produced unworthy work. His sharp arraignment of German literary methods two or three years back is a well-known example. No one could question his patriotism—his services so long given to his country were evidence of that—but he was above the narrowness that even the pursuit of science does not always eradicate in its workers. The whole world came to delight to do him honor during his illustrious life, and now that he has passed away full of honors and years his memory will live after him.—*Med. News.*

Virchow.—It would be a vain effort adequately to characterize Virchow within the limits of an editorial eulogy. The man was so many-sided and so profound that his personality and his work elude the attempt to limit them within an impromptu description. It may be said at once that only one other man—Pasteur—has so shaped the course of modern pathology as has Virchow. To these two men, more than to all others, we are indebted for the fact that pathology, among all the medical branches, has come the nearest to holding a front rank with the other physical sciences. Of these men, Virchow perfected the stage and Pasteur introduced the actors. The one was an histologist, the other a bacteriologist. Both were masters, and the one was the complement of the other.

Virchow's name in medical science is inseparably associated with the cellular pathology. Professor Welch, in an appreciative address on the man, reminded us a few years ago that the cellular pathology is not a system of doctrines. It is a biological principle, and its foundations have been attacked, but have never been shaken. And

yet, as is well known, Virchow did not originally demonstrate the cell. That scheme was Schwann's, and even in pathology Johannes Müller had already applied the microscope to the study of tumor-formation. The great discoverer—here as everywhere—was not the first man who saw, but the first man who comprehended. That man was Virchow.

But Virchow did not establish a school. He was too great a man for that. In his oration on Müller, Virchow said: "There is no school of Müller in the sense of dogmas, for he taught none; but only methods." This in turn is a description of Virchow himself, and we shall miss the true significance of the man, after all, if we do not seize firmly upon this truth in our estimate of him. Virchow continued the methods and was of the same type as John Hunter. In pathological anatomy these two represented the pure Baconian type of scientists. They spun no theories, they wove no webs, but they enriched science with a vast accumulation of facts, which in their hands were made to assume new forms, and these forms we call *principles*. In the language of the Persian poet, "they broke up the tiresome old roof of heaven into new forms."

But it was not so much what he did as the man himself that conveys an adequate moral to us now that he is dead. By his methods we can gain knowledge, but from his personality we can gain wisdom. Virchow was not only a great scientist, but he was a great humanist. All things interested him that were human. In science he was profound; in philosophy, luminous; in languages and literature, erudite; in politics, liberal and indefatigable; in religion, reserved. These were the characteristics of a mind that was framed to be an exemplar and a leader among men. In his life the world enjoyed the constant fruition of a great intellect; in his death it inherits the lesson of high thinking and sane living. With the man himself medical science loses its most illustrious exponent of the nineteenth century.—*Phila. Med. Jour.*

Theory and Observation in Medicine.—The medical literature of this country, and for that matter of other countries also, consists of both the chaff and the wheat. Much of what is written is a mere repetition of previous work, much is pure speculation and the application of writers' theories and fads to medical subjects. A certain proportion only consists of original observations, and it is from this that our modicum of progress every year in medicine comes. This state of affairs would be discouraging, only that it is not true in medicine alone. In every science there is the complaint of the amount of writing done for the little advance gained. In every field of thought supposedly brilliant theories usurp the place of patient investigation. Any number of mare's nests are found and exploited every year. Hence despite the acknowledged value of scientific investigation, the popularity of the expression used by Amiel in the *Journal Intime*: "Science is a lucid madness occupied in tabulating its own hallucinations."

Theories fall and others rise perennially to take their places. The most striking feature in the history of medicine is the successive adoption of every new hypothesis to accord with the scientific fad that is most prominent at the moment. Just a century ago almost to the year the great French physicist and physician Cabanis said in a review of the medical theories of his time that "every age has its peculiar taste and fashion. At different periods medicine has assumed the tone of the prevailing sciences. It has even endeavored

to speak their language and to subject itself to the same rules so that it has passed successively through all the different systems that have acquired any degree of celebrity in the world."

Cabanis' declaration is literally true. After Newton's discovery there was a iatro-mathematical period in medicine, especially noteworthy in England, when the reduction of therapeutics to an exact science through mathematical principles was the constant effort of the theorist. When Leibnitz ruled the world of European thought there was a period of iatro-philosophic speculation when metaphysics seemed to promise much for medicine. After the rising science of chemistry began to make itself felt, all vital reactions were explained on chemical grounds and the horizon of medicine seemed surely bounded by chemical principles. On the other hand, when physics began their notable evolution at the beginning of the present century, mechanical theories of life became predominant and therapeutics took on a physical character. It is not surprising, then, to find that the marvelous development of electricity and the successful elucidation of the chemistry of the carbon compounds should give us in our day a crop of theories as to life and health, each with a modicum of truth perhaps, but advanced as if they represented the whole field of vital activity and pointed to the only methods proper for the correction of its faults. It would not be surprising either to find that these theories so elaborately evolved would prove of as little practical value as have so many other medical echoes of current scientific thought in the history of medicine.

As a matter of fact the great mass of theorists in medicine have done little for science, but act as a brake on the wheels of progress. A distinguished medical professor of Bologna, when he heard that Harvey advanced as a proof of the circulation of the blood the fact that one could hear the heart beat, is said to have said: "Harvey may hear the heart beat in London, but we do not in Bologna." Engaged in his theoretic speculations he never even took the trouble to listen. When Auenbrugger made his demonstration of the value of percussion he practically dedicated his little book on the subject, the first important contribution to the modern science of diagnosis, to his master, Van Swieten, the head of the medical clinic in Vienna. Van Swieten wrote ten volumes of commentaries on medical subjects, two of them mainly concerned with thoracic disease, without even deigning to mention the great work of his pupil. Laennec fare'd some better, but received not nearly the honor that went to his contemporary Broussais the theorist, whose work, though not without its merits in a certain way, probably did more harm than good. Even in our own time Koch received all the honor at the Tenth International Medical Congress in Berlin, in 1891, while Ramon y Cajal, who brought with him to the congress his original demonstrations in brain anatomy that have since made him so famous, attracted no attention outside a narrow circle of nerve specialists.

It would be a priceless boon to medicine if the lesson could be learned that not brilliant speculation nor theories, however suggestive they may seem, are so much wanted as patient, painstaking observation. There are any number of subjects in which discoveries lie almost invitingly ready to be made. Within a few years a hospital interne, Dr. Head, has given us one of the most important series of clinical observations made in a half century by a careful investigation of the superficial skin areas that are affected sympathetically when pathological conditions develop in

internal organs. Opportunities for original work are not lacking for those who seek them. Expensive laboratory equipments are by no means necessary. A wise German physician said not long ago: "The gun does not make the marksman, nor the laboratory the investigator." What is needed is patience and good will with the perseverance to follow up a subject until legitimate, practical conclusions are reached.—*Jour. A. M. A.*

Prof. Naunyn on Modern Therapeutics.—In an address recently delivered at Strassburg, Professor Naunyn makes some interesting remarks on modern therapeutic efforts and methods.

Modern medicine, he says among other things, has profited extensively by its association with modern industry, and our excessive advertising makes the most of this circumstance. Consequently, the illusion prevails that only the new is valuable and reliable, while the old is a relic of the past. Only the careful conservative observer is aware of the real state of affairs. Let us look at the art of clinical diagnosis, for example. No one will attempt to deny the great significance of such recent acquisitions as cryoscopy, cystoscopy, or radiography. And yet, when all is considered, the first place will be assigned to the ophthalmoscope, the thermometer, to auscultation, to percussion—all of them old methods.

Nor is it otherwise in the domain of therapeutics. Great as are some late additions to our armamentarium, there is no new drug that can equal in importance such old remedies as opium, mercury, quinine, iodide of potash, digitalis, etc.

The modern era in medicine dates back to the first half of the last century, when the study of nature underwent such radical changes. The new scientific methods, applied to the healing art, did not fail to effect a revolution, and we should not lose sight of these facts in the self-complacent, advertising glare of the present day.—*Therap. der Gegenwart.*

How we Cure Membranous Croup.—Early one morning more than twenty years ago, a poor woman came to our house, saying: "Doctor, won't you go to my house and see my little boy who is dying with membranous croup?" Dr. B. had been there and said it was useless to give the child medicine, as he would soon die, and left without giving anything.

Sure enough, when we arrived at the house we saw the conditions just as she had stated. We thought, and looked, and asked ourselves, shall we give the old treatment that has failed in many thousands of cases and it will fail in this one? We are not a believer in following on old though well or badly beaten trails that lead only to destructive failure. We say, cut loose from all such and have self-reliance. You can, at most, do no worse than fail, and yet you may succeed.

Well, we opened our case and looked; Jaborandi will open the sweat glands, thereby reducing dryness; and gelsemium will relax and relieve the hard breathing. We gave 40 drops of a good fluid extract of jaborandi with 5 drops of fluid extract of gelsemium, to a three-year-old child. Heroic dose? Yes; we were forcing death and must be victorious. That was what we were there for, and we must do something quickly. We remembered having given a lady 20 drops fl. ext. gelsemium when all else had failed, in a case of cramps in cholera morbus, and it relieved her within ten minutes, and we cured her too with gelsemium. We reasoned that all the medicine would not be readily absorbed in

the case of the child, and we must do something quickly. We watched the effect closely and within 20 minutes the child breathed freer. We repeated with half the dose in thirty minutes, and saw the little sufferer improve decidedly. We mixed more of the remedies in water and ordered it given each half hour, and went to breakfast. Returned in an hour to meet the mother at the door, saying: "God bless you, Doctor, you have saved my child." The membrane came away and the child played that afternoon.

Well, it never rains but it pours, and within a week we were called across the Illinois river to see a case of membranous croup, that the doctor, after an all-night labor, had given up and left. We thought of the other little one and gave the jaborandi and gelsemium, perhaps in smaller doses, with complete success.

The next November we had an epidemic of diphtheria in our city. Late one afternoon we were called to see three children in one house who had malignant diphtheria. A girl 12 years old was smothering and we thought she could not live an hour. We gave the other two children medicine and then turned to the girl. We said to ourselves, this is cowardly not to try to relieve this child a little, but what could we do? Try jaborandi, etc., came to us like a flash. We gave a teaspoonful of this remedy, with ten drops of Merrell's gelsemium, then watched the girl a half hour and gave half the former dose. Placed an outward application on her throat, left more of the remedy in water, with orders to give it each hour till she slept.

We went early the next morning expecting to find the girl dead, but to our surprise she was at the table drinking coffee. The membrane was gone. She got well.

We have found jaborandi nearly a specific in diphtheria, as well as in membranous croup.—Floyd Clendenen in *Alkaloidal Clinic*.

Some day Dr. Clendenen will give jaborandi for croup, and instead of his patient recovering death will ensue. And then Dr. Clendenen will wish he had stuck to certainties and used pilocarpine.—Ed. *Alkaloidal Clinic*.

"Give Him Air; He'll Straight Be Well."

—In view of the award to Dr. Arthur Latham of the first prize, of £500, for his essay in regard to the proposed King's Sanatorium for Tuberculosis, some interest attaches to an address delivered a few months ago before the Hunterian Society of St. George's Hospital, by the successful competitor, on the Modern Treatment of Pulmonary Consumption. In it Dr. Latham throws well-deserved scorn upon the treatment which has been so often meted out to unfortunate sufferers from this disease, a treatment by-the-bye which can, even at the present day, be found in full swing in the out-patient departments of many a hospital, even of special consumption hospitals, where, if anywhere, one would expect to meet with better things. "It is not an uncommon experience," he says, "to find some unfortunate workman, who lives continuously in a fetid atmosphere and eats an indifferent amount of coarse and unnutritious food, taking all of the following medicines during the 24 hours:—A mixture of cod-liver oil with malt, to supply, so it is said, the place of the 'fast-ebbing vital oil'; a mixture of gentian and sodium bicarbonate, to assist the jaded appetite; an ether mixture to strengthen the action of the heart when the patient feels more than usually ill; some form of lozenge to allay the cough during the day time, together with a new-fangled antiseptic as an in-

halation; and some pernicious preparation of opium to bring sleep at night." It is one of our amiable weaknesses to hold patent medicines in ridicule and contempt, but what could be more ridiculous, considering the teachings of the dead-house, than the current treatment of consumption so aptly described by Dr. Latham—a mere pouring in of drugs without any attempt to touch the root of the disease. Yet in the midst of all this drugging, which has been going on far longer than we can remember, there have been men who saw the truth. So far back as 1840, George Bodington insisted on the importance of a generous diet and a constant supply of pure air, and propounded the terrible heresy that "cold is never too intense for a consumptive patient." In 1855 Dr. Henry MacCormac, the father of the late Sir William MacCormac, published a book on somewhat similar lines, and in 1861 read a paper before the Royal Medical and Chirurgical Society in which he advocated what are now established principles. Yet what was the treatment which these pioneers received at the hands of their professional colleagues? Bodington's book, says Latham, "met with much bitter and fierce opposition, and eventually the disapproval of his methods became so universal that patients were driven from his sanatorium," while "the members of the Royal Medical and Chirurgical Society refused to pass the usual vote of thanks to Dr. MacCormac, because they thought that the paper was written by a monomaniac."

The position taken up by the medical profession in regard to the treatment of consumption has indeed been most deplorable, and has thrown into strong light the bar sinister which hangs over the origin of medicine—a science, if it be a science, springing in the far past from mystery and witchcraft, tainted with the methods of the sorcerer, and even now dominated by that overmastering faith in drugs and nostrums which is the direct and disastrous heritage handed down to us by our immediate ancestors, the apothecaries.

It has been a most ignoble spectacle, no one taking a broad view. Each man limited by his education and trudging along in the rut of his old habits—physicians pouring in drugs, surgeons scraping out bits of diseased tissue, while even now, in the full light of bacteriological science, we find men attempting to cure consumption by soaking the patient's tissues with antiseptics; and all this in defiance of the teachings of pathology, which go to show how frequently the disease gets well if the patient's vitality, the *vis medicatrix naturæ*, is but given a fair chance. Yet, how near we were to the truth if we would but have listened, if we would but have cut ourselves adrift from the prejudices ingrained in us by our education, and, in the words of one great man, have thrown "physic to the dogs," and in those of another, have investigated all things by "observation and experiment." Once a year we have met together to do honor to the immortal Harvey, and then we have returned to this miserable drug-giving as if Harvey had never existed. Meanwhile, notwithstanding our ostracism of new ideas, the teaching of Bodington, of MacCormac, and of the modern host of sanatorium owners has prevailed; and now, at last, in the full sunshine of royal patronage, we admit how simple is the truth, expressed as it is by the motto of Dr. Latham's essay:—"Give him air; he'll straight be well." What sycophants we all are! It is high time that, as a profession, we sang a litany, "From the thralldom of dogma and the limitations of the physic bottle, Good Lord deliver us."—*Hospital*.

The Respective Merits of Vegetarianism and Mixed Diets.—L. Kuttner, in the *Berliner Klinik*, discusses the respective merits of vegetarianism and mixed diets. His conclusions may be summarized as follows:

(1) That a mixed meat diet is natural and most suitable to man, because vegetable foods are more bulky, more irritating, and less assimilable; moreover, animal food stuffs produce more heat.

(2) Impartial investigation has proved that, given judicious choice and preparation, strict vegetarianism is not only sufficient to maintain condition, but even to increase weight. Successful experiments are, however, few and far between, and the subjects do not as a rule compare favorably with those who eat mixed or animal diets in their power to put on weight and resist disease.

(3) That a modified vegetarian diet (that is, one supplemented by such animal products as milk, butter, cheese, honey, and eggs) is suitable (a) for corpulent constipated patients deficient in intestinal activity, but it is not to be recommended in the case of young growing people with a tendency to embonpoint; (b) in certain cases of alcoholism; (c) it is followed by brilliant results in dyspepsia and intestinal affections of nervous origin; (d) particularly to be recommended in idiopathic neuralgias, as well as those having a gouty basis; (e) useful in the treatment of headaches and other disorders dependent on constipation in neurasthenic, hysterical, and epileptic patients; (f) as the pulse-rate is diminished under a vegetable diet, it is to be recommended in conditions of abnormal irritability of the heart (arising from emotion, excessive muscular action, sexual excitement, etc.), and in exophthalmic goiter; it is contraindicated in all conditions of heart weakness due to arteriosclerosis, myocarditis, etc.; (g) a marked addition of vegetables to the diet should be considered in many cases of insomnia, nervosa, urticaria, psoriasis, and occasionally, scrofula.

(4) That to achieve a favorable result in absorption, a reasonable combination of animal and vegetable food stuffs is essential. For all healthy and for most sick persons a mixed diet (different in degree and constitution according to the patient) is to be recommended.

(5) As a guide to the arrangement of a suitable modified vegetarian diet, the following may be of value: (a) In weak, broken-down patients with chronic catarrhs or an inclination to ataxia of the stomach, a vegetarian diet must be gradually approached, and must be only maintained temporarily (say for six weeks); (b) in gastric neurasthenia, and especially in habitual constipation in patients of good physique, a vegetarian diet may be instituted less gradually, and may be maintained for a longer period.—*Public Opinion*.

Medical Aphorisms.—Perhaps the medical editor's appeal to "boil it down" is at least getting into one ear of his contributors without getting out at the other. At any rate, physicians are beginning to express some of their thoughts on medical practice and ethics, and even—heaven be praised!—their advice to their juniors, in short, aphoristic sentences, some of which are almost worthy of a place beside the concentrated sayings of the wise men of Greece. The aphorisms by Dr. Rockwell of Worcester, Mass., which appeared originally in *American Medicine*, having been copied by the *London Practitioner*, are now finding their way rather extensively into the medical journals of this country. Perhaps, like the

California wine that is said to come back to us from France with French labels, they are improved by the twice-taken trip across the Atlantic, but this we may be allowed to doubt. Some of the aphorisms are certainly well done. For instance, these:

"Find out who 'runs' the family and then you 'run' her." This discovery will prove of great value. "The most important thing in therapeutics is the knowledge of what not to do." "The most dangerous member of society is the doctor who never makes a mistake." "Possess yourself of an irresistible, indestructible optimism. It is the keystone of the arch of success." "Don't tell your neurasthenic there is nothing the matter with him. It is not the truth." "Never give up a patient."

Dr. Rockwell evidently does not agree with the popular notion that a physician can only be successful if he applies himself exclusively to his profession, for one of his most striking aphorisms is: "He can not obtain the highest professional success who knows only medicine." Since so many physicians have succeeded in doing such things as to write successful novels, apply themselves to science with distinction, write occasional historic sketches, and do magazine articles, very creditably, the old idea of a doctor always over his cases is going out. There are not wanting those who, like Dr. Rockwell, now insist that to do medicine well a doctor must obtain breadth of view by doing something else very well as a sort of recreation of mind.

Another notable set of medical aphorisms appeared recently in the von Leyden Festschrift, to which we called attention some time ago. These are contributed by Dr. Buttersack of Berlin, a member of the staff of the German Army, and some of them are worthy of a line or two in the commonplace-book of every physician. For instance: "Faith makes us happy, but the will makes us healthy." "Not knowledge, but self-discipline raises men to a higher plane of existence." "Science is sacred. It takes only such offerings as come from a pure heart." Not only with the brain, but also with the heart must a physician strive to reach the heights of his profession. Some of the aphorisms are of more practical character: "The rifle does not make the marksman, nor the laboratory the investigator." "The natural scientist and the physician must first of all protect themselves against autosuggestion." "Even the universal specialist is far from being the true physician."—*Med. News*.

Four Hundred Dollar Prize.—Dr. J. B. Mattison, medical director of the Brooklyn Home for Narcotic Inebriates, offers a prize of \$400 for the best paper on the subject:

"Does the habitual subdermic use of morphia cause organic disease?"

"If so, what?"

Contest to be open two years from December 1, 1901, to any physician, in any language.

Award to be determined by a committee: Dr. T. D. Crothers, Hartford, Conn., editor "Journal of Inebriety," chairman; Dr. J. M. Van Cott, professor of pathology, Long Island College Hospital, Brooklyn, and Dr. Wharton Sinkler, neurologist to the State Asylum for the Chronic Insane, Philadelphia.

All papers to be in the hands of the chairman, by or before December 1, 1903; to become the property of the American Association for the Study and Cure of Inebriety, and to be published in such journals as the committee may select.

Correspondence

AND

BRIEF CLINICAL REPORTS

Iron in Anemia

This subject has been discussed in our columns at length, and, we trust, instructively (as the ARCHIVES itself has had considerable to say on the subject). Those of our correspondents who have entered into the discussion are physicians of ability and broad experience, well equipped to give our readers their best thought on the subject. In our June number Dr. Aylsworth had something to say about the opponents of iron in anemia, which Dr. Cooper, one of these opponents, believed to be directed specifically at him. Dr. Aylsworth, in a recent communication, states that "there was absolutely nothing to show that he (Dr. Cooper) was specially attacked," and that "this renders the apology he makes to your readers in my behalf an unnecessary gratuity." The ARCHIVES, therefore, hopes that this incident is happily closed.

Dr. Aylsworth's recent letter concludes as follows:

"Dr. Cooper's belief, concisely stated, is that 'Iron is iron whatever may be its associations.' Hence, iron in food is iron—iron is a medicine, medicine can only deplete and depress, and yet he allows his depleted and depressed anemics to take food with iron, a depleting and depressing medicine in it.

"Can anyone conceive of lame reasoning based upon false premises ending in a more fatuous course? No; the logic is not lame—it is paralytic.

"I have not an atom of animosity towards the man—Dr. W. C. Cooper—but confess to a strong antipathy to anything tending so plainly to muddle therapeutics as this anti-iron campaign."

Thiosinamine in Stricture of the Urethra

Editor MERCK'S ARCHIVES:

I recently used thiosinamine in one case of stricture urethra. It was a very severe case, the patient having been troubled with incontinence from overflow for months previous, and already his kidneys had begun to show the effects of the back pressure. The stricture was passable, but only with a filiform bougie. I gave thiosinamine by the mouth, and tried gradual dilatation at the same time. The condition rapidly improved, so much so in fact that my patient celebrated the event by a debauch, he being an old alcoholic. His improvement was more in the nature of a softening of the stricture than an actual enlargement of the caliber of the urethra. I have not seen him for months, as he disobeyed all instructions by returning to alcohol. However, I believe he is very much improved and has not applied to anyone for further treatment.

To sum up, I would say that I think thiosinamine to be of some benefit in stricture of the urethra. Just how much I could not say from my case.

CLARENCE GRAY, M.D.

Montreal, Canada.

Fresh Crude Petroleum as a Therapeutic Agent

Editor MERCK'S ARCHIVES:

When a single ounce cost 25 cents, petroleum was eagerly sought and highly prized for its medicinal virtues, chiefly for external use. In the early sixties, under improved methods of pro-

duction, its commercial value declined to 10 cents a barrel of 42 gallons. During this period of abundance and waste, the value of petroleum as a healing agent had almost vanished from the minds of the masses.

It occurred to me that it might still be of use in acute affections of the respiratory tract. Repeated trials proved the correctness of the theory. For many long years I have used it with gratifying results. By and by I was induced to try it in enteric troubles and found it equally efficacious.

But I had not suspected its real worth when I began to use it myself for the relief of the lingering effects of enteric disturbance, contracted at Fort Pickering, Memphis, Tenn., in 1865 and '66. I have now used it daily for more than six months, beginning with a small dose early in the morning. I found the effect so salutary that I increased the dose to a teaspoonful, and instead of one dose, I now take three or four doses daily. I have gained many pounds in weight, and have improved in physical vigor beyond what any one of my age might reasonably expect, all of which I attribute to the daily use of petroleum.

How does it produce this salutary effect? Investigators claim that petroleum passes the entire length of the digestive tract unchanged, and that the ingesta may all be collected from the excreta. It is, therefore, not a food and is not assimilated. Whence, then, comes this increase of body weight?

One point gained is: the bowels are soothed and in soluble condition, invariably one or two motions daily. Costiveness is, therefore, impossible. The appetite is increased, gaseous distention is prevented or speedily allayed. Fermentation does not occur in the presence of crude petroleum. Fruits, rich in grape-sugar, berries of like character, and green sugar-corn may be freely taken without danger of acid fermentation if a dessertspoonful of crude petroleum follow the meal. This I demonstrated by actual test only recently to my entire satisfaction.

It is easily taken; does not nauseate or destroy the appetite; increases the desire for food; aids digestion, in some way which I do not understand, except it be by preventing gaseous fermentation.

The oil I have been using has a paraffin base; no unpleasant odor. It is obtained from the white sandrock, 1000 to 1500 feet beneath the surface in the valley of the Allegheny, Pennsylvania.

West Monterey, Pa.

A. D. BINKERD, M.D.

Epidemics of Grippe

Editor MERCK'S ARCHIVES:

I have used tannalbin and euquinine with great success. Have used thioicol during this and other epidemics of grippe; also in colds and in cases of tuberculosis, and find it to be all that is claimed for it.

MARY S. WILLIAMS, M.D.

471 First st., Brooklyn, N. Y.

Treatment for Burns

Editor MERCK'S ARCHIVES:

Here is the best treatment for burns that I have found in a practice of thirty-five years:

Lanum (Merck) applied on absorbent cotton $\frac{1}{2}$ inch thick, spread on with table-knife or spatula dipped in hot water so the lanum will not stick. Apply the lanum side to the burn, dress every day, apply a light roller bandage to keep on. Brother practitioner, try it, and you will use no other treatment.

JACOB W. ROOT, M.D.,

Kilbourne, Ill.

Book Reviews

Prof. Ladislaus Szymonowicz's *TEXT-BOOK OF HISTOLOGY AND MICROSCOPIC ANATOMY* is highly thought of in Europe, and English-speaking students are to be congratulated upon the fact that the work has now become accessible to them in an English translation. The translator and editor of the work is Prof. John Bruce MacCallum, of Johns Hopkins University. It has been the translator's object throughout to trace, as far as possible, the development of the organs and the histogenesis of the tissues. He has also endeavored to emphasize the fact that in many organs it is possible to recognize structural units which are repeated in a definite way and bound together by a characteristic framework. While the spirit and characteristic features of the German original have been carefully retained, changes have been made in text or illustration where definite knowledge was to be gained thereby. The illustrations are remarkably clear and those in color are very beautiful. (Lea Brothers & Co., Philadelphia and New York. Illustrated with 277 engravings, including 57 plates in colors and monochrome. Price, cloth, \$4.75 net.)

HEMMETER'S DISEASES OF THE STOMACH is the most complete and exhaustive, and—what is more important—the most satisfactory treatise on the subject that has ever been written. It is safe to say that not a single article of any importance on the subject of gastric diseases, in the English or any other civilized language, has been overlooked by the author, Dr. John C. Hemmeter, professor in the Medical Department of the University of Maryland. No physician having any practice in disorders of the stomach, which in our country are particularly frequent, can afford to be without Dr. Hemmeter's work. This is the third edition, with many original illustrations, a number of which are in colors. In a work that is essentially a record of practice, and intended for practice, states the author, the main object for a new edition must be to sift the wheat from the chaff in the new publications on this subject that have appeared since the last previous edition. Much emphasis has been placed upon the factor of differential diagnosis, and new material has been added to the chapters on ulcer and carcinoma, and a new article on gastric lipase. (P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia. Third enlarged and revised edition. Price, \$6 net.)

DISEASES OF THE RECTUM AND ANUS: Designed for Students and Practitioners of Medicine. By Samuel Goodwin Gant, M.D., LL.D., Professor of Rectal and Anal Surgery at the New York Postgraduate Medical School and Hospital. Prof. Gant's work has within a comparatively brief period gained for itself an enviable position. The advances made in rectal surgery within the last few years have necessitated a complete revision of the work. In the present edition three entirely new chapters have been added on the following subjects: Diseases, injuries, and tumors of the coccyx; venereal diseases of the ano-rectal region, and recto-colonic enteroliths and concretions. Besides, many new and original illustrations have been added. The illustrations in color are so realistic as to be—considering the region which they represent—rather unpleasant to the eyes. But if they are not a pleasure to behold, they are instructive and useful. In short, the work is one of the best on the subject of ano-

rectal diseases. (F. A. Davis Co., 1914-16 Cherry street, Philadelphia. Second edition, rewritten and enlarged, with thirty-seven full-page plates, twenty of which are in colors, and 212 smaller engravings and half-tones. Pages, xxiv-687. Royal octavo. Price: extra cloth, \$5 net; sheep or half-russia, \$6 net, delivered.)

THE DISEASES OF INFANCY AND CHILDHOOD, by Prof. L. Emmett Holt, M.D., LL.D. Second revised and enlarged edition. To those conversant with the first edition of Prof. Holt's work on children's diseases this edition needs no commendation except the assurance that the work has been thoroughly brought up to date. For the benefit of those not familiar with the book, we may say that it represents the best one-volume work on the subject of pediatrics with which we are acquainted. Considerable space is devoted to pathology and a description of the pathological lesions, but this the author considers essential to a proper interpretation of the symptomatology and diagnosis. But the treatment is not at all neglected; it is given in great detail. The subject of milk and infant-feeding is properly recognized as the most important one in pediatric practice, and very ample space is devoted to this topic. The chapters pertaining to it have been entirely rewritten for this edition, in accordance with the latest researches bearing upon the subject. The numerous illustrations are excellent, and nearly all of them are from original sources. The many illustrative charts serve further to increase the usefulness of the work. (D. Appleton & Co., New York. 1161 pages, with 225 illustrations, including 9 colored charts. Price, cloth, \$6.)

DISINFECTION AND DISINFECTANTS: A Practical Guide for Sanitarians, Health and Quarantine Officers. By M. J. Rosenau, M.D., director of the Hygienic Laboratory, Marine Hospital Service, Washington, D.C. This is a very useful book, containing much valuable information not only for sanitarians and public officers, but for private practitioners as well. An idea of the scope of the work may be given by presenting a résumé of the contents: Chapter I treats of physical agents, such as sunlight, electricity, dry heat, boiling, etc. Chapter II deals with gaseous disinfectants and the consideration of formaldehyde, SO_2 , hydrocyanic acid, chlorine, oxygen, and ozone. Chapter III considers the action of solid and liquid disinfectants in solution: lime, corrosive sublimate, carbolic acid, the hypochlorites, potassium permanganate, ferrous sulphate, zinc chloride, etc., are all taken up separately, and their advantages and disadvantages recounted. Chapter IV treats of insecticides; V of the disinfection of houses, ships, and objects in general, and the concluding chapter, VI, treats of the disinfection in the various communicable diseases, such as typhoid fever, cholera, dysentery, diphtheria, tuberculosis, etc. (P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia. Pp. 355. Ninety-six illustrations. Price: cloth, \$2 net.)

GENERAL PARESIS, Practical and Clinical. by Robert Howland Chase, A.M., M.D. That there is a lack of knowledge among general practitioners of the details of paresis, notwithstanding that upon them must rest the responsibility of diagnosis and early treatment of this disease, is apparent. It has been the purpose, therefore, of the author of this volume, who has had an experience of more than twenty-five years among cases of nervous and mental diseases, to present in this work a brief, thorough guide to symptomatology and differential diagnosis, with such instructions for

treatment as have been found of value in his experience. We believe the physician is in need of this book. The illustrations are reproductions of photographs from the records of the Pennsylvania State Hospital for the Insane at Norristown; and in each stage of paresis are given four or more likenesses most typical of the exact conditions described. Those showing the earlier and more or less indistinct and vague symptoms of the disease reflect a most commendable feature in the character of the text—the effort to give the greatest aid in differential diagnosis and in the recognition of incipient disease. (P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia. 290 pages. Price: cloth, \$1.75 net.)

THE succeeding volumes of *PROGRESSIVE MEDICINE*, a quarterly digest of advances, discoveries, and improvements in the medical and surgical sciences, are always welcomed to our library. The third volume for the year is especially interesting to the general practitioner. It contains four very complete sections. Dr. William Ewart, of London, treats of diseases of the throat and its viscera, including the heart, lungs, and blood-vessels; Dr. Wm. S. Gottheil, of New York, treats in an interesting and exhaustive manner of dermatology and syphilis; diseases of the nervous system are handled by Dr. William G. Spiller, of Philadelphia; while the progress in obstetrics is chronicled by Dr. Richard C. Norris, also of Philadelphia. The volume contains 421 pages and 26 illustrations. Prof. Hobart A. Hare is the editor of the work, and is assisted by Dr. H. M. Landis. (Lea Brothers & Co., Philadelphia and New York. Octavo, handsomely bound in cloth. Price, per volume, \$2.50, express paid; per annual set, \$10.)

PROMPT AID TO THE INJURED, by Alvah H. Doty, M.D., health officer of the port of New York, is a manual of instruction for those who are desirous of knowing what course to pursue to relieve the sufferers in emergencies. It should be found particularly useful by the ambulance corps of the different military organizations, and it includes the drill regulations for the Hospital Corps, U.S.A. Considerable space is devoted to anatomy and physiology, and each topic is explained in a plain and simple manner. The work must be meeting a deserved success, for it has reached a fourth edition, in which the author has made such changes as cause it to conform to present-day knowledge. The chapter on disinfection has been entirely rewritten. There are also numerous illustrations to make the work more intelligible. (D. Appleton & Co., New York. Price: \$1.50.)

TRAITÉ DE L'INTUBATION DU LARYNX, dans les sténoses laryngées aiguës et chroniques de l'enfant et de l'adulte, par le Dr. A. Bonain. This volume will hardly interest many of the profession in this country because here the subject of intubation is no longer under discussion. In France, however, there still seems to be a field for propaganda in that direction. Full credit is given in the volume to our Dr. O'Dwyer for his share in perfecting that life-saving method. (Félix Alcan, Paris. Price: cloth, 4 fr.)

MANUEL D'HISTOLOGIE PATHOLOGIQUE, par les Profs. Cornil et Ranvier, publié avec la collaboration des Drs. Brault et Letulle, third edition entièrement refondue. Tome deuxième, avec la collaboration de MM. les Drs. G. Durante, J. Jolly, H. Dominici, A. Gombault et Cl. Philippe. Any commendation that we may bestow upon Cornil and Ranvier's magnificent work would be super-

fluous. The treatise is well and favorably known throughout the world. We may only say that in this latest edition all the late researches and discoveries in pathological anatomy have been fully taken into account. The third and fourth volumes, which will complete the work, will appear in 1903. (1 fort vol. gr. in 8° avec 202 gravures en noir et en couleurs dans le texte, 25 fr. Paris, Félix Alcan, éditeur.)

Although last year the sale of *THE MEDICAL DIRECTORY OF THE CITY OF NEW YORK* was unprecedented, the advance sales alone this season represented an increase of several hundred over the total number then disposed of. This fact speaks very eloquently of the ever-increasing usefulness and popularity of the work. It contains a complete list of all qualified physicians in the States of New York, New Jersey and Connecticut, besides much other matter of interest to physicians of New York City in particular, concerning hospitals, medical societies and journals, charitable institutions, agencies for nurses, quarantine, etc. (Published by the Medical Society of the County of New York. Price: \$1.50.)

THE *ECLECTIC PRACTICE IN DISEASES OF CHILDREN*. For students and practitioners. By William Nelson Mundy, M.D. A very good textbook, indeed. It gives, of course, the eclectic treatment, but the latter is rational enough to be adopted with benefits by followers of other schools. The pathology of the various diseases is treated briefly, but the symptomatology and treatment are given in detail, and this is as it should be. We are sure that Eclectics will find the book very satisfactory. (The Scudder Brothers Co., Cincinnati, O. 1902. 12mo, 631 pages. Price, cloth, \$2.50 net.)

Books and Pamphlets Received

- Physical Diagnosis. By Egbert Le Fevre, M.D. (Lea Bros. & Co., Philadelphia and New York.)
- Diseases of the Anus, Rectum, and Pelvic Colon. By James P. Tuttle, A.M., M.D. (D. Appleton & Co., New York.)
- Massage and the Swedish Movements. By Kurre W. Ostrom. (P. Blakiston Son & Co., Philadelphia.)
- The Diseases of Infancy and Childhood. By Henry Koplik, M.D. (Lea Brothers & Co., Philadelphia and New York.)
- L'Eau dans L'Alimentation. Par F. Malméjac. (Félix Alcan, Paris.)
- Die Krankheiten der Verdauungsorgane im Kindesalter. Von Ernest Schreiber, M.D. (A. Stuber, Würzburg.)
- Würzburger Abhandlungen aus dem Gesamtgebiet der praktischen Medizin.—Vol. II, No. 9: "Die ambulatoire Behandlung der Beinbrüche," von Docent Dr. J. Riedinger. No. 10: "Die Grundsätze der modernen Behandlung der Fibromyome des Uterus," von Prof. Dr. M. Hofmeier. No. 12: "Die Notwendigkeit zahnärztlicher Schulung für den praktischen Arzt und seine Einführung in die moderne Zahnheilkunde," von Docent Dr. Jessen, Strassburg. (Würzburg: A. Stuber's Verlag. 1902.)
- Die Akne (Akne vulgaris, Akne rosacea, etc.) und ihre Behandlung, von Dr. S. Jessner, Königsberg. (Würzburg: A. Stuber's Verlag. Preis, M. 0.60.)
- Fear as an Element of Nervous Diseases and Its Treatment. By John Puntton, M.D., of Kansas City, Mo. Reprint from "Jour. Amer. Med. Assoc."

NEW WORK. JUST READY.

Koplik—Children.

A Text-Book on Diseases of Infancy and Childhood. For the Use of Students and Practitioners. By HENRY KOPLIK, M.D., Attending Pediatricist to Mt. Sinai Hospital, New York; ex-President of American Pediatric Society, etc.

The world's work in Pediatrics during the last decade has been scientific and progressive. Among the men who have contributed to this advance, none stands higher than the author of this new volume. Fully conversant with the literature of the subject in all the great medical languages, he is preëminently qualified to give his readers the benefit of the best knowledge at home and abroad. He has covered the entire subject with the practical good judgment distinctive of the American mind. His work is richly illustrated with engravings and plates, mostly original.

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From beginning to end of his active career, every medical man, no matter what may be his specialty, must understand and be ready to apply the methods of determining the condition of the great internal organs. They govern, and must be consulted. The methods of physical diagnosis are easy and positive if approached in the right way. Dr. Le Fevre has presented them in a text of peculiar clearness and with abundant illustration.

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Miscellany

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THE DOCTOR'S LIFE—ONE NIGHT ONLY.

[Original poem read before the Mifflin County
(Pa.) Medical Society.]

A wild March night, the clock struck one.
For miles through sleety storm he'd come;
And when the doctor sought his bed,
"I hope I'll sleep till morn," he said.

"When young I did not heed the cold.
I'm fifty-eight; pshaw, that's not *old*!"
But he was older than he knew;
Fierce storms endured, and many, too;
And winter's cold and summer's heat,
Too often without time to eat
Will age one more than Time maybe,
And *old* at fifty-eight was he.

Yes, oft all day at work he'd kept,
Then worked at night, while others slept.
And when he'd tried to calm the fears
Of anxious friends, and dry their tears,
The horrid pains his patients felt
His sympathetic heart would melt.

And he would grieve in sorrow sore,
When Death came knocking at their door;
And fight him back, with might and main,
Till Death would leave—to call again.

Of all the ills his patients knew,
He felt a share and suffered, too.
When all these things a man has done,
Then he has two years lived in one.

"The chills are creeping up my back;
Is it vitality I lack?
Perhaps the sleep some warmth will bring—
Ah, there I hear my night-bell ring!"

"Doc, neighbor John, six miles away,
Has got the cramp; please don't delay."
Then softly down the stairs he creeps,
Lest he may wake someone who sleeps,
And hear the words, "*Now don't you go!*"

Oh, how he dreads this cruel blow!—
When go he *must*, with heart maybe,
Grown sad from wanting sympathy.

With visage grim, determined mien,
He meets the storm with edge so keen,
His face it cuts, till blood near flows,
As on his lonely way he goes.

At length, his journey's end he nears—
A light, the house itself appears.
He hopes he has not come too late,
Then hears a cry of anguish great.

To him none need that story tell—
The scene within he knows full well—
Yes, knows indeed how runs the tale,
When hurt brings forth the human wail.

Discase, he knows, there holds full sway,
While anxious friends in silence pray—
Whose hearts are torn by Hope and Fear,
While Death, unseen, stands smiling near.

To change this scene the doctor seeks,
Ere he begins the patient speaks—

"I knew you'd come, I knew you would!"
With looks of deepest gratitude.

"Yes, I've endured the cold and wet,
Although you never pay a debt.
When last I spoke about my bill,
You hinted I might go to—still
I did not feel inclined somehow,
Nor will I let *you* go there now."

A half hour more, gone is the pain,
Toward home the doctor rides again.
Though fierce as ever is the storm,
He smiles to feel his blood grow warm.

His heart is light, his spirits gay—
He's earned these thrills of ecstasy,
Which well he knew to him would come—
A sure reward for duty done.

"Those looks of gratitude," says he,
"Will likely be my only fee.
But when I reach the other side—
Where the great Book lies open wide—
If on the *left* there seems to be
Too much that's wrong there charged to me,
Perchance I'll find, upon the *right*,
Some record of my life to-night."

—Walter H. Parcels, M.D., in *Penn. Med. Jour.*

IMPRISONED IN A WELL FOR NINETY-NINE AND ONE-HALF HOURS.—On June 24th a well-digger named Joshua Sanford, owing to the collapsing of the brick casing of a well, at the Scott farmhouse, near Paris (Ont.), was imprisoned in the well for close on one hundred hours. In order to rescue Sanford, a shaft fifty feet in depth was made parallel to the well in which he lay. When on a level with the position occupied by the man, a tunnel was constructed from the shaft to the well, large enough to permit the passage of a man's body, and the first nourishment that he received in nearly eighty hours was given him. On Friday night, June 27th, it was found that his right leg was held tightly in a mass of brick, so that it could not be moved. A second tunnel three feet beneath the first one was put in and cased. The rescuers, John Carnie, William Hamilton, and Richard Doyle, introduced scantling through the lower tunnel, so as to support the weight of the mass of collapsed brick and sand surrounding Sanford's body, and then picked out the bricks, so that the imprisoned leg could be released without causing the mass of debris to fall lower down. Sanford's head was then lowered to the same level as his feet, and he was withdrawn from the well through the lower tunnel and carried up to the surface in a bucket at 5.30 Saturday, ninety-nine and one-half hours after the accident had occurred. After he had been placed in bed, he was examined by Drs. R. Dunton, Burt, Sinclair, and Loggie, of Paris. Addison, of St. George, and Stanley, of Brantford. They found that Sanford had suffered comparatively little during his incarceration, and long period of abstinence from food. There were a number of slight scalp wounds on his head, caused by falling bricks. There were wounds and bruises all over the body, and several contusions on the right leg, which anchored the man in the well, and around which a rope had been fixed in an effort to drag him out of the hole. This leg was apparently paralyzed, and this condition was expected to exist for some time. His speech was nearly normal. His pulse was 140, his temperature 98 F., and the respirations 44. The soundness of Sanford's physique may be es-

timated from the following colloquy, which took place after he had been carried to the surface and placed on a stretcher: "You're a brick, Carnie," said Sanford, stretching out his hand to the man who had spent seventeen hours in the shaft. "Well, I may be a brick, Josh," said Carnie, "but you're the biggest brick in America."—*Can. Jour. Med. & Surg.*

OTTO'S AUTOMOBILE.—

'Tis strange how fashion makes us change the objects we admire;
We used to sing the tireless steed, but now the steedless tire.

So Otto bought an auto, so as not to be antique,

But the thing was autocratic,
As well as automatic,

And the auto wouldn't auto as it ought to, so to speak.

He thought to get an auto operator for the work,
And first he tried a circus man and then he tried a Turk.

For he knew the circus man drove fifty horses with success.

And if a man be shifty

Enough to manage fifty,

It's palpable enough he ought to manage one horse less.

As for the Turk, 'tis also plain, deny it if you can,
He ought to run an auto, since a Turk's an Ottoman.

'Twas all no use, so Otto moved to Alabama purely,

That he might say: "I'm Otto,
From Mobile, and my motto,

'A Mobile Otto ought to run an automobile surely.'"

Then Otto sought to auto on the auto as he ought to.

But the auto sought to auto as Otto never thought to.

So Otto he got hot, O, very hot! as he ought not to.

And Otto said, "This auto ought to auto and it's got to."

And Otto fought the auto, and the auto it fought Otto,

Till the auto also got too hot to auto as it ought to,

And then, Great Scott! the auto shot to heaven—so did Otto—

Where Otto's auto autos now as Otto's auto ought to.

—*The Smart Set.*

HIGH STANDARDS—A LAY OPINION.—To see ourselves as others see us is not always discouraging. The danger, in fact, is that sometimes it may give us too good a conceit of ourselves. Country doctors are not by any means always William McClures, but we think it probable that there are many of them who feel that they deserve some of the halo of saintship given by the gifted Scotch clergyman. This is not profitable; self-consciousness of virtue has its ethical drawbacks. On the other hand, the current pessimism of some members of our profession is equally bad and sometimes worse. A physician who believes that the profession is going to the dogs is in danger of becoming reconciled to the belief and conduct himself accordingly, for humanity is weak and tends to adapt itself to its environment or what it believes it to be. A cynical pessimism has

(Continued on p. xiv)

NAUSEA OF ANAESTHESIA

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(Continued from p. XIII)

the very worst ethical prognosis and even a certain amount of priggery, which is by no means always hypocrisy, is in every way to be preferred, though it may be offensive.

We talk of commercialism pervading the profession and sometimes make ourselves believe that it predominates and that to the majority our code of ethics is obsolete both in letter and spirit. That this is not the case no one ought to know better than ourselves, but outsiders sometimes emphasize this truth. In the last issue of one of the most widely circulated lay periodicals of this country—*The Youth's Companion*—we find a grateful testimony to this effect which we can take to our comfort and profit. The editor says:

A young woman doctor was recently invited to become house physician of a woman's ward in a projected hospital. A large salary was assured her, and opportunity for advanced experimental work in surgery. Investigation showed that the hospital was a purely money-making concern, based on extensive advertising. "Reputable physicians," was her brief comment, "have higher ideals than a large salary." Another physician of assured standing, was recently approached by a pill company with an offer of a handsome sum of money if he would prescribe its pills once a day to each of his patients. "Show the gentleman out," was all the reply that was made to the suggestion. The family doctor is more and more giving way to the specialist, but it may be truly said that the ethics and standards of physicians and surgeons were never higher nor more unselfish than they are at the present day.

This is the honest judgment of a lay observer who takes a comprehensive view of us at our best. We ourselves know that abuses and evils exist and it would be foolish to ignore them if we wish to combat them. But there is a vastly greater amount of good if we would only see it; sometimes it is most prominently seen from the outside. Within the profession we have our view more or less obscured by the littleness and selfishness we see about us—they sometimes blind us to the many estimable qualities that exist even in those we criticise. It is well, therefore, to be reminded now and then that to outsiders the medical profession as a whole is still advancing toward its high ideals.—*Jour. A. M. A.*

THE CRIMINAL USE OF CHLOROFORM.—The recent trial of a lawyer in New York for the murder of his client brought up again the interesting question as to the possibility of chloroforming a sleeping person without awakening him. The popular and professional belief nowadays is that this is impossible, but there is strong evidence that this is not always or necessarily true. In this connection, the apparently forgotten experiences of Quimby are of value.

This authority has made an interesting report on facts connected with the use and abuse of chloroform, which is instructive to the profession.

In consequence of the murder of a policeman in Jersey City, while he and his wife were supposed to be asleep in bed, his wife was arrested as a *particeps criminis*. She denied the charge, and asserted that she had been chloroformed, during sleep, and therefore was innocent of the crime. The State denied this, and contended that it was impossible for her to have been chloroformed in that way; that the fumes of the chloroform would have certainly awakened her from her natural sleep, and therefore she must have known who the murderer or murderers were.

Here, then, as will be seen, arose a very nice

and important medico-legal question, viz., whether a person could be chloroformed whilst in natural slumber without first being awakened; or, in other words, whether the application of chloroform, properly given, would awaken the person to whom it was applied; or, could such person pass from the natural to an artificial sleep (or chloroform sleep) without being aroused by its application? Mrs. Smith asserted most positively that she was chloroformed while she was asleep in bed with her husband, and knew nothing about the murder until she awoke in a bewildered condition, feeling the cold elbow of her husband pressing against her side. It may be stated here that there was found in the room of the murdered man a bottle partly filled with chloroform, and a folded towel, with bloody finger prints, which Mrs. Smith asserted was upon her face when she awoke; she also described quite accurately the taste, smell, and pungency of chloroform. Without going into further details, the counsel for Mrs. Smith applied to Dr. Quimby, to know if it were possible to transfer a person from a natural to an artificial sleep by the use of chloroform without first arousing the sleeper from his natural slumber. He had never attempted the application of chloroform to a person while in a natural sleep, and the books, as far as he knew, were silent on that point; yet he thought there would be no difficulty, if proper care were taken in administering the chloroform, in transferring a person from the natural to an artificial sleep. Dr. Quimby was urged, in behalf of humanity and justice, to settle by experiment this disputed question, and made arrangements with Mr. A—— to enter his room an hour or two after he had retired, and when he was asleep to apply the chloroform. This was done with entire success, the sleeper being transferred from the natural to the chloroform sleep without arousing him from his natural slumber. About three drachms of Squibb's chloroform was required, and the process occupied about seven minutes.

The second case was a boy, aged thirteen, who was suffering from an ingrowing toe-nail. He refused to allow any one to touch him with the knife or forceps without etherizing him. When Dr. Quimby attempted to apply the ether he screamed and struggled so desperately that his mother became frightened and asked the physician to desist from giving him ether. In this dilemma the mother put the boy to bed with a light supper, and the physician called at the time agreed upon, and found the boy quietly sleeping. He applied the chloroform, divided the nail in the center, and removed the two segments by the application of forceps, without awakening the patient, or his having any knowledge of the operation, until next morning when he awoke, and discovering the condition of his foot, remarked that had he known "it would not hurt any more than that, he would have had it taken out at the office, and was ashamed that he had made such a fuss about it."

The third case was a boy, ten years old, who was brought to Dr. Quimby's office suffering from a swelling over the lower jaw, which proved to be an abscess due to decayed teeth, but the boy would let no one come near him with either lancet or forceps. The physician sent the boy to bed with a light supper, and stated that he would call at the house after the boy was asleep, administer chloroform, open the abscess, and extract the teeth. All of this was done without arousing the boy. The physician took the precaution of remaining with the patient about one hour after the operation to attend to any hemor-

(Continued on p. xvi)

NOT "WITH MALICE AFORETHOUGHT", BUT GOOD INTENTION WITH LACK OF THOUGHT is often the cause of a patient's suffering when his physician prescribes a regular, ordinary preparation of OPIUM which inevitably produces a dull, heavy headache, a prostrating vertigo, a distressing nausea, and an obstinate vomiting. Every one of these toxic symptoms might be obviated if only the doctor would prescribe Svapnia—which is a 'purified opium with a fixed morphine standard', and from which the poisonous, convulsive, tetanizing alkaloids, Narcotine, Papaverine, and Thebaine, have been entirely removed. Sold by druggists generally.

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MEETINGS OF NATIONAL MEDICAL SOCIETIES

| NAME | ANNUAL MEETING | WHERE HELD | SECRETARY |
|--|--------------------------|-------------------------------|--------------------------------------|
| American Academy of Medicine..... |, 1903..... | Columbia, Pa..... | A. R. Craig. |
| Academy of Railway Surgeons..... | October 2-3, 1902..... | Kansas City, Mo..... | T. B. Lacey, Council Bluffs, Ia. |
| Anatomists, Association of..... | ..... | D. S. Lamb, Washington, D. C. | D. S. Lamb, Washington, D. C. |
| Assn. of Genito-Urinary Surg..... | May 12-14, 1903..... | Washington, D. C..... | John Van derpoel, New York City. |
| Assn. of Obstetricians & Gyn..... | Sept. 16-18, 1902..... | Washington, D. C..... | W. W. Potter, Buffalo, N. Y. |
| Assn. of Military Surgeons of the U.S. | May, 1903..... | Boston, Mass..... | Major J. E. Pitcher, Carlisle, Pa. |
| Assn. for Study & Cure of Inebriety. | October 20, 1902..... | T. D. Crothers, Hartford, Ct. | T. D. Crothers, Hartford, Ct. |
| Climatological Association..... | May, 1903..... | Washington, D. C..... | Guy Hinsdale, Philadelphia, Pa. |
| Dermatological Association..... | Sept. 18, 19, 20, 1902.. | Boston, Mass..... | F. H. Montgomery, Chicago, Ill. |
| Electro-Therapeutic Association..... | Sept. 2, 3, 4, 1902..... | Catskill Mts., N. Y..... | Geo. E. Bill, Harrisburg, Pa. |
| Gastro Enterological Association.... | May 1, 1903..... | Washington, D. C..... | Chas. D. Aaron, Detroit, Mich. |
| Gynecological Society..... | May 5-7, 1903..... | Washington, D. C..... | J. R. Goffe, New York City. |
| Laryngological Association..... | May 12-14, 1903..... | Lexington, Ky..... | Jas. E. Newcomb, New York City. |
| Larynx, Rhin., and Otol. Society.... | ..... | New Orleans, La..... | Werdell C. Phillips, New York City. |
| Medical Association..... | June, 1903..... | New Orleans, La..... | Geo. B. Simmons, Chicago, Ill. |
| Medical Editors' Association..... | ..... | New Orleans, La..... | O. F. Ball, St. Louis, Mo. |
| Medical Colleges, Assoc. of..... | May 4, 1903..... | New Orleans, La..... | W. S. Hall, Chicago, Ill. |
| Medico-Psychological Assoc..... | May, 1903..... | Providence, R. I..... | C. B. Furr, Flint, Mich. |
| Neurological Association..... |, 1902..... | New York City..... | G. M. Hammond, New York City. |
| Ophthalmological Society..... | May, 1903..... | Washington, D. C..... | S. B. St. John, Hartford, Conn. |
| Orthopedic Association..... | ..... | Washington, D. C..... | John Ridlon, Chicago, Ill. |
| Otological Society..... | May, 1903..... | Washington, D. C..... | F. L. Jack, Boston, Mass. |
| Pediatric Society..... | May 12-14, 1903..... | Washington, D. C..... | S. S. Adams, Washington, D. C. |
| Physicians, Association of..... | May 12-14, 1903..... | Washington, D. C..... | H. Hun, Albany, N. Y. |
| Protologic Association..... | May 5, 1903..... | New Orleans, La..... | W. M. Beach, Pittsburg, Pa. |
| Public Health Association..... | December, 1902..... | New Orleans, La..... | C. O. Probst, Columbus, Ohio. |
| Surgical Association..... | May 12-14, 1902..... | Washington, D. C..... | Dudley P. Allen, Cleveland, O. |
| Therapeutic Society..... | ..... | Washington, D. C..... | Noble P. Barnes, Washington, D. C. |
| Canadian Med. Association..... | September 16-18..... | Montreal, Can..... | George Elliott, Toronto, Canada. |
| Con. of State and Prov. Bds. of Health of North America..... | ..... | ..... | ..... |
| International Assn. of Railway Surg.... | October 28-29, 1902.... | New Haven, Conn..... | G. F. Swarts, Providence. |
| Mississippi Valley Med. Assoc..... | May, 1903..... | Indianapolis, Ind..... | L. J. Mitchell, Chicago, Ill. |
| Missouri Valley, Med. Soc. of the..... | October 15-17, 1902.... | Kansas City, Mo..... | H. E. Tuley, Louisville, Ky. |
| Nat. Con. State Med. Exam. & License Boards..... | September 18, 1902.... | Sioux City, Ia..... | Chas. W. Fassett, St. Joseph, Mo. |
| Roentgen Society of the U. S..... | ..... | ..... | A. W. Sutor, Herkimer, N. Y. |
| Seaboard Medical Association..... | ..... | ..... | J. Rudis Jicinsky, Cedar Rapids, Ia. |
| Southern Med. College Assoc..... | December, 1902..... | Wilson, N. C..... | John R. Bagby, Newport News, Va. |
| Southern Surg. & Gyn. Assoc..... | ..... | ..... | G. C. Savage, Nashville, Tenn. |
| Tri-State Med Soc. of Ala., Ga. & Tenn. | November 12-14, 1902 | Cincinnati, O..... | W. D. Haggard, Jr., Nashville, Tenn. |
| Med. Soc. of Iowa, Ill. & Mo..... | October 8-10, 1902.... | Birmingham, Ala..... | Frank T. Smith, Chattanooga, Tenn. |
| Med. Soc. of Md., W. Va. & W. Pa.... | April 2-3, 1903..... | Hannibal, Mo..... | W. B. La Force, Ottumwa, Ia. |
| Western Ophthal and Oto-Laryng. Assn. | ..... | ..... | Percival Lantz, Alaska, W. Va. |
| Western Surgical and Gynecological Association..... | April 9-11, 1903..... | Indianapolis, Ind..... | D. T. Vail, Cincinnati, O. |
| | December 29, 1902.... | St. Joseph, Mo..... | Geo. H. Simmons, Chicago, Ill. |

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rhage that might occur, and to observe if any change would take place when he would pass from his artificial to his natural slumber again. When the doctor called next morning, the family reported that the boy awoke at six o'clock, exclaiming, "I must have swallowed my teeth, for they are both gone."

Two important inferences may be drawn by Dr. Quimby from the above quoted cases, viz.:

First, that minor surgical operations, such as opening abscesses, removing ingrowing toe-nails, etc., may be done with perfect safety and much more pleasantly than in the ordinary way.

Secondly, a person somewhat skilled in the use of chloroform may enter the sleeping apartment of a person or persons and administer the drug with evil intentions. Hence the use of chloroform in the hands of the criminal may become an effective instrument in the accomplishment of his nefarious designs.—J. Howe Adams, M.D., in *Med. Age*.

A' READIN' IN MY BED.—

When I used to seek my comfort with a book
upon my bed,
Then my wife would come a' tellin' me of what
the doctor said,
How that lying there and reading was the worst
thing I could do,
There are so many worse things that you can't
tell which are true,
For tobacco is the worst thing and so is bourbon
booze,
Just like a lying in my bed to read a line and
snooze.
She told me of the eye-strain that was sure to
make me blind,
She told me of the posture that too close my
lungs confined,
She told me of the gas fumes that in my lungs
would creep
If I should get to dozing and the gas burn when
asleep.
And she showed me lines of figures the doctor
had made out
To hedge me by statistics if I had the nerve to
doubt.
And I got to sort of thinking, and I guess its
pretty true,
That it's always worst to do the thing you want
the worst to do.
But I let them do their talking and I wouldn't
move my head
From the pile of feather pillows I had heaped
upon the bed.
And one night I got to reading in the paper of
the day
And then I struck this passage, and since then
I've had my way,
For the scientific gentry most certainly have said
That it's mighty beneficial just to read awhile
in bed.
And I never would have known it or have heard
of it at all,
If I hadn't done my reading in my bed beyond
the hall.

—G. T. P. in *Chicago Clinic*.

"SWEATING NUNS."—A rather curious case lately came before the Court of Cassation in Paris. The nuns of the Convent of the Good Shepherd, at Nancy, do a great deal of both plain and fancy sewing. The orders they receive are so numerous that they cannot execute them by themselves, and engage lay women and girls to assist. They are charged with overworking these lay helpers and paying them hardly anything.

We have heard of similar complaints, though we cannot say whether they are justified or not, being made regarding the convents in Ireland where lace is made not only by the sisters but by the children whom they are educating. Convents are very largely managed on business principles now. Several of those in Normandy and Brittany do a large boarding-house business during the summer months and make no trouble over either the sex or religion of their guests. Almost all have some specialty in work, be it embroidery, lace, or confectionery making, and the convent orphanages are supported not only by the gifts of the faithful, but by the payments of parishes which board out their pauper children of the same creed under the care of the nuns. One would naturally assume that women who devote their lives to the service of God as sincerely and fervently as nuns of all kinds do, would conduct their establishments on the best possible principles, but, unfortunately, this same religious fervor tends to make them lose sight of the needs and capacities of the instruments employed. If the mother superior and the cloistered sisters under her are willing to work night and day for the benefit of their Church, they are apt to expect a like devotion from their unvowed helpers, forgetting that these want only to make a living, and will not count it gain if life is shortened through overwork, as a nun might do. A religious enthusiast, without having any intention of cruelty, is often hopelessly inconsiderate toward others. Reports of overwork having gone about regarding the Nancy Convent, an inspector went there at nine o'clock one night to see if there was any foundation for them. The superior of the convent, however, refused to admit him, and for this she was fined 100 francs by the Nancy tribunal. She appealed against the decision, and obtained one in her favor from a higher court, which declared that there was no sufficient reason for the night visit of the inspector. Again this decision, in turn, the Procureur-General at Nancy appealed, but at the Court of Cassation the verdict was again in favor of the nuns. While, so far, victory has gone with the convent, the case may very probably raise a question in the public mind, which will want to know why, if convents, or other philanthropic or religious establishments, undertake outside work, they should not be regarded simply as factories, and placed under the ordinary limitations of the Factory Acts, obtaining no advantages in this respect from the fact that they are religious foundations?—*Hospital*.

MILLIONAIRES.—It will be a great mistake for the community to shoot the millionaires, for they are the bees that make the most honey, and contribute most to the hive even after they have gorged themselves full. Here is a remarkable fact, that the masses of the people in any country are prosperous and comfortable just in proportion as there are millionaires. Take Russia, with its population little better than serfs, and living at the point of starvation upon the meanest possible fare, such fare as none of our people could or would eat, and you do not find one millionaire in Russia, always excepting the emperor and a few nobles who own the land owing to their political system. It is the same, to a great extent, in Germany. There are only two millionaires known to me in the whole German Empire. In France, where the people are better off than in Germany, you cannot count one-half dozen millionaires in the whole country. In the old home of our race, in Britain, which is the richest coun-

(Continued on p. xviii)

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(Continued from p. xvi)

try in all Europe—the richest country in the world save one, our own—there are more millionaires than in the whole of the rest of Europe, and its people are better off than in any other. You come to our own land; we have more millionaires than in all the rest of the world put together, although we have not one to every ten that is reputed so.—Carnegie.

INHERITANCE.—

Lo! What am I? A patch of things,
Mere odds and ends of lives flung by.
From age-long rag-bags gatherings
Pieced up by Fate full thriftily;
Somebody's worn-out will and wit,
Somebody's habits and his hair,
Discarded conscience, faith once fair
Ere time, the moth, had eaten it;
My great-grandfather's chin and nose,
The eyes my great-grandfather wore,
And hands from remote—who knows?—
Perchance prehensile ancestor;
Somebody's style, somebody's gait.
Another body's wrist and waist,
With this one's temper, that one's trait.
One's tastes, another's lack of taste;
Feelings I never chose to feel,
A voice in which I had no voice,
Revealing where I would conceal
Rude impulses without a choice;
Faults which this forefather or that
Unkindly fostered, to my ill.
With others some one else begat
And made the matter worser still.
They chose, these masters of my fate,
To please themselves, bequeathing me
Base pleasures in the things I hate,
Liking for what misliketh me
Out of the ashes of their fires,
Out of the fashion of their bone,
They fashioned me, my mighty sires,
And shall I call my soul my own?
* * * * *
Ay, borrowed husk, head, heart and hand,
Slave on and serve me till we die!
I am your Lord and your Command!
But only God knows—what am I.
—GRACE ELLERY CHANNING in *Atlantic*.

A SERIOUS CASE FOR THE DOCTOR.—When a doctor of thirty years' practice encounters a new experience it must be worth relating. This is from a physician who has fought disease for the period named:

"I saw him get gingerly out of a wagon in front of his office. He then left the team with his daughter, ignored the bell, and pounded lustily on the door. I answered in person, because I thought he and my office girl might get into an argument, for he looked just like a man who would insist on seeing the 'doc' at once.
"Doc," he began without other preliminary, "I've been a takin' truck fur six months, and blamed if I hain't worse'n I was at the beginnin'."
"What's the matter with you?"
"Stomach's all out of whack. Regular riot down there all the time, and me a dosin' in the remedy after each meal and at early bedtime."
"What are you taking?"
"Here it is, doc, and I got a lot left yet. My first wife used to buy it in the bulk 'cause it came cheaper."
"But this is for the lungs."
"S'pose I don't know that? Course it's for the lungs. That's what was the matter with her. I don't care if it was for the liver, it's got ter go

to the stomach first, hain't it, and the stomach and the lungs hain't so durned far apart but what helps one helps the other, and what gits to one gits to the other."—*Med. Standard*.

THE VERY FIRST YEAR HE'S OUT.—
What an opulent thing
Is the medical king:
How proudly he wanders about!
Far richer is he
Than again he will be:
It's the very first year he is out.

If we ask him by chance
Of his practice expanse
He will tell us with smile that is bland
Of the way he is run
From sun until sun,
How his praises are sung in the land.

Of the laps he's done,
Of the races he's won
With the ghastly old angel of death;
Of the cases in which,
For the famous and rich,
He has given back heart-beat and breath.

And he does not admit
That at noon he must sit
On a stool at a counter at lunch;
That sinkers and tea
The viands must be,
That this medical kinglet must munch.
—G. T. P., in *Chicago Clinic*.

INDIAN CURE FOR TYPHOID.—Some weeks ago old Sandy Niccut, the great medicine man of the Micmac Indians, was discovered in his tent just outside the village of Presque Isle, Me., unconscious, and suffering from a malady, which the local doctor said was typhoid fever. He was taken to a house where he revived enough to tell his attendants that he would die unless Eli entered the sick-room. "The musician, who lived at Miramichi, must be sent for.

A telegram was therefore sent to LeClare, asking him to come and bring his fiddle. Two days later the wrinkled Frenchman and his battered fiddle reached Presque Isle.

The medicine man was unconscious when Eli entered the sick-room. The musician screwed up his instrument, twanged the strings for a moment and began to play in a minor key, the low notes rolling off from his bow like shavings under the stroke of a plane.

The sick man was tossing in a delirious fever when Eli started to play, but as the music continued, he became more quiet, his respiration was less labored, and at the end of an hour he was sleeping quietly and perspiring.

"Heem bin geet well now," cried the fiddler. "Ah'm bin scar' out ze fever devil, so Sandy heem bin sleep."

He sent for a pint of whiskey, and having drunk more than one-half of it, he mixed the remainder with cold water and began to bathe the body of his friend, chanting an Indian lullaby while he worked, and making passes, such as are practised by magicians when they try to exorcise evil spirits.

The patient rested well that night. When he grew feverish Eli rubbed his bow across the catgut and reduced the temperature of his friend. For three weeks the French-Canadian watched by the bed of the sick Indian, dosing himself with

whiskey and bathing the patient in whiskey and water every hour.

The doctor, certain that the Indian would die, paid little heed to the case beyond calling once a day to take the temperature of the sick man. The fever ran its course, and on the twenty-first day, when it turned, Eli went out for half an hour, coming back with six large bullfrogs, which he placed upon the sick man's body, three on each side.

After this he resumed his playing and did not stop sweeping the bow across the sounding strings until Sandy had broken out in perspiration and was sleeping easily.

"Now geev heem one quart of cole milk," ordered the musician, "an' heem bin geet well."

When Sandy had taken the milk as ordered and had slept for a few hours, he woke up and was able to recognize those about his bed. He felt the cold frogs against his skin and asked to have them removed. Eli turned back the sheet and took from the bed six swollen and discolored frogs, all of them dead.

"Fever devil heem go in ze frogs an' mak' ze frogs die," said Eli. "Now Sandy heem geet well pretty kveek."

Delivering himself of his diagnosis of the case, the musician took his fiddle from the table, put on his fur cap and walked down to the railroad station, where he purchased a ticket for Miramichi.—*Diet. and Hyg. Gazette.*

YOUNG LOCHINVAR UP-TO-DATE.—

Oh, young Lochinvar came out to the West;
He claimed that his automobile was the best;
It was painted dark red and it brilliantly shone,
He went like a streak and he rode all alone;
He shot over ruts with a zip and a jar,
And people fled madly from young Lochinvar.

With a whirr of his wheels and a hum of his cogs
He knocked down the children and ran over dogs;
He frightened the horses and laughed at their pranks,

And men who got mad he regarded as cranks;
He gave her the very last notch on the bar,
And a cloud of dust followed the gay Lochinvar.

He stayed not at bridges, he stopped not for stone,
He calmly took all of the road as his own
Till he came to a crossing and smashed through
a gate

And endeavored to butt through a trainload of freight—

They searched and at last, lying under a car,
They found a few chunks of the bold Lochinvar.

The lady sat waiting to hear the loud hum
That would tell her the gallant had finally come,
But she waited with sighs and she waited in vain—

Those car wheels bore many a sickening stain.
And, to show you how pitiless some people are,
They said it was good for the young Lochinvar.
—*Chicago Record-Herald.*

ONE-CENT RESTAURANT.—The American, even the poorest, spends twice or thrice as much as he need or should upon his food. A capital illustration of this fact has been given of late in New York City, where a "one-cent restaurant" has been established, and has so far proved successful. A large bowl of pea-soup, hominy or oats, etc., is served for one cent, and other things, coffee, bread and butter, beans, pudding, etc., at from three to five cents. A meat dinner for ten cents was offered, but proved unpopular. Any

of the one-cent portions contain food elements sufficient to supply the nourishment required in a full meal. Two or three of these one-cent portions per day, if varied according to appetite, should maintain the weight, strength and health of an ordinary individual for an indefinite time, if such extreme economy is necessary.—*Amer. Med.*

HYPNOTISM THAT FAILED.—"I have come," said the clever young hypnotist, making two or three mysterious passes with his hands and looking straight into the old man's eyes, "to ask you for your daughter. We love each other very dearly—look out, there is a horsefly buzzing near your left ear!—and we want your blessing. I am fully prepared to take care of a family—you don't remember your name do you?—and the sweet one who is so near and dear to you will be perfectly safe in my keeping. Of course, you would not think of raising an objection—come, now you are a donkey, and I will lead you over here, where the grass is nice and green and tender—you would not think of raising an objection that might make her unhappy all the rest of her life, would you? Yes, it is very kind of you to give—oh, poor old donkey, have you eaten all the nice fresh grass there? Come, I will lead you to another spot where it is longer and greener, and we will—"

"All right! All right!" said the office-boy, snapping his thumb and finger close to the clever young hypnotist's ear. "Wake up! It's all over."

"Where am I?" the clever young hypnotist asked.

"Out in the alley. I guess the donkey didn't like that last grass. He kicked."—*Chicago Record-Herald.*

AN OSTEOPATH.—

For there wasn't a tendon nor muscle

He hadn't located quite pat;

Each ligament, too, in the inside of you

He knew just the point it was at;

This osteologic perception,

So intense, almost rendered you silly;

And we called him atomical, tiny and comical,
Cute, anatomical Willie.—*Town Topics.*

THINK OF THE CONSEQUENCES.—

The amateur entomologist was in ecstasies.

"I have just had a rare and most interesting experience," he said. "I have spent more than an hour watching the unfolding of a seventeen year locust."

"What was so blamed interesting about that?" asked Farmer Ashcraft.

"When I first saw it," said the other, "it was on an old stump in your orchard over there. The chrysalid was attached to the bark, and while I was looking at it the shell slowly burst open along the back and the insect crawled out. It fell to the ground, a flabby, shrimplike thing, and didn't have any use of itself at first, but it soon began to gather itself together, straightened out, its wings unfolded gradually, it shook them to see if they were all right, and then its legs moved. They had been curled up under the body, you know. Then it moved along the ground a few inches, and while I was still watching it it shook its wings out again, gave a little spring, and flew away just as if it had never done anything but fly for the last seventeen years."

"And you let it get away?"

"Certainly. Why not? I was more interested in—"

"You durn fool!"—*Med. Standard.*



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Some Medical Aphorisms Analyzed

Qui bene diagnoscit, bene curat.—This is a favorite aphorism with those physicians who consider labeling a disease and a correct recognition of its underlying pathologic changes the ultimate object of medicine and the highest goal of the physician. But the aphorism as it stands does not express the absolute truth; it is certainly not a non-debatable proposition. That, *all other conditions being equal*, the physician who is a good diagnostician will achieve better success than the one who is not, will not be disputed, and we have no intention of doing so. But to assert, as that aphorism does, that whoever is a good diagnostician is *ipso facto* a good therapist, is certainly wrong. That "he who diagnoses well cures well," would be true if two other factors were true, which is not the case. Those are: First, if every disease had a cure; second, if every disease had *one* definite, well-established, and undisputed plan of treatment. Were this the case, the thing would be simple. There being one definite treatment for each disease, the physician would simply have to diagnose the disease properly, and the treatment would follow; and that physician would treat most successfully who is a good diagnostician.

But as things are, the failure of a good diagnostician may be due to two causes: First, he may diagnose the condition rightly and not be able to do any good, because there may be no treatments for that condi-

tion in our present state of knowledge; or after having diagnosed the condition rightly, he may prescribe wrong or inefficient treatment, on account of not having paid sufficient attention to the subject of therapeutics. And this is the particular point we wish to bring out. A physician may be able to diagnose with the utmost *finesse*, yet not be able to do as much good to the patient as the practitioner who is not so well up in the fine differential points, but who is devoting his life to the empiric relief and cure of conditions as he meets them.

The untenability of the above aphorism becomes especially apparent when it is put in juxtaposition with another aphorism, the force of which is being acknowledged by a constantly growing number of physicians. That aphorism reads: *Treat the patient and not the disease*. If this be correct teaching—and we believe it is—what is it but a confession that (with insignificant exceptions) there is no definite treatment for any disease; that in each and every case we must study the general condition of the patient, his vitality, the condition of his heart, his arteries, his digestive power, etc., and prescribe accordingly? We are called to a case of lobar pneumonia. The diagnosis is easily established. Does this tell us what to prescribe? No. Depending upon the age, and general constitution of the patient, the condition of his heart and pulse, etc., the treatment may in one case be the exact op-

posite of the treatment in another. In one case we may have to prescribe cardiac depressants, like aconite and veratrum viride; in another, cardiac tonics like strychnine and digitalin. This shows that merely the correct labeling of a disease is alone not sufficient as a guide for treatment.

Treat the cause and not the symptoms.—This aphorism is supposed to incorporate the acme of medical wisdom, and it certainly looks very plausible. Its wisdom and truth in many cases are incontestable. But the trouble with this statement, as with many others, is that in attempting to make it universally applicable, its fallacy becomes apparent. We have touched on this question in a previous editorial, but the subject is of sufficient importance to deserve further elucidation. It is of importance because a principle in practice is at stake. Let us consider a few symptoms of disease, and we shall see where we would land if we refused to treat them.

Pain. This is one of the most common and most prominent symptoms of disease that the physician is called upon to relieve; and to relieve pain has always been one of the most important and pleasant duties of the followers of the healing art. In many conditions the pain—which is admittedly a disease symptom and not a disease entity—is so severe that relief is imperatively demanded and must be furnished at all hazards, or the physician has no reason for existence. But it is not only from humanitarian motives that pain must be relieved. As we have shown before, a symptom of disease may in itself cause dangerous sequelæ. Long-continued pain, by preventing sleep, causing anorexia, and racking the nerves, may cause more damage to the system than the original disease which caused the pain. The pain of glaucoma, ear disease, tic douloureux, sciatica, peritonitis, the passage of calculi, etc., is sufficiently illustrative of what we have just said.

Cough. Cough is of course a symptom of disease, but still we must frequently treat it, because if untreated it aggravates the original trouble and causes other injury. Even in simple bronchitis that variety of cough known as a dry, "useless" cough—

cough unaccompanied by expectoration—must be treated and relieved. Otherwise it may cause an extension of the inflammation; it will also weaken the patient, by preventing sleep, cause soreness of chest, etc. In whooping-cough the attacks have been known to cause cerebral apoplexy. In pulmonary tuberculosis the incessant hacking cough drags in its train very disagreeable sequelæ: it exhausts the slender vitality of the patient; it prevents his sleep, of which he is so much in need; it often causes vomiting, thus depriving the patient of his food; and it may be the direct exciting cause of a severe pulmonary hemorrhage. The propriety, therefore, of directly treating that troublesome symptom, cough, should be fully apparent.

Fever. Of the necessity of treating that symptom, when it has reached a certain degree, we spoke in a previous editorial.

But not only is treatment of symptoms justifiable on the ground that they may, if not attended to, cause dangerous sequelæ; in many cases we simply have no choice, because the original disease is not amenable to treatment. We shall take a single illustration: in cirrhosis of the liver the etiologic factor, the cause, is alcohol or whiskey. We certainly cannot pump the whiskey out of the patient; and the cirrhosis itself, the connective-tissue change in the liver, is not amenable to treatment. However, there is a train of symptoms and changes which the cirrhosis produces—the portal stagnation, the gastro-duodenal catarrh, the anorexia, the constipation, etc., etc.—which must be treated and relieved if the patient is to be made more comfortable and his days on earth prolonged.

To summarize: If the symptom of a disease is of a trifling character, causing but little discomfort and threatening no sequelæ, it should be left alone. If by treating the cause of the disease, we remove both the disease and its symptoms, this course should be pursued. In all other cases the treatment of the symptom-complex of the disease should engage our attention as much as the disease itself. In many cases all we *can* do is to treat the symptoms; the disease itself is beyond our control.

[Written for MERCK'S ARCHIVES]

THIOSINAMINE IN CHRONIC OTITIS MEDIA, ACCOMPANIED BY IMPAIRED HEARING

By Lewis S. Somers, M.D., of Philadelphia, Pa.

WHILE innumerable local and general remedies have from time to time been advocated in the treatment of chronic fibroid and hyperplastic changes in the middle ear, accompanied to a greater or lesser extent by impairment of hearing and tinnitus, but few have been of any practical value, as the nature of the pathologic changes in the tympanum precluded to a considerable extent more than indifferent or temporary results unless aided by various mechanical measures directed toward the absorption of the morbid tissue. From the study of the scant literature relating to the use of thiosinamine in aural sclerosis, it is apparent that the drug has had but little trial; yet its effects upon allied conditions in other parts of the body, seem to indicate, as pointed out by several observers, that it presents a field of usefulness here equal to that exerted by it upon other cicatricial or fibrous formations.

It is unnecessary more than to mention a few facts in relation to thiosinamine itself, as its pharmacology has been previously noted by Robinson. The drug is derived from oil of mustard seed, and chemically belongs to the group containing urea. It occurs as a crystalline powder, with a slight odor of garlic, has a bitter taste, and is moderately soluble in water, but quite so in alcohol and ether. Laboratory experiment has shown that in frogs it produces a narcotic action and a condition of anasarca which remains present for several days; while in dogs, vomiting, slow respiration and drowsiness follow its administration.

Its chief action in medicinal doses in man, especially when subcutaneously injected, is distinctly marked upon scar tissue; and if it be injected in any part of the body, even at distances remote from the site of the scar formation, it produces a local reaction varying in degree in localities where there is degenerated or feebly nourished pathologic tissue, either as cicatrices, overgrowth of fibrous tissue, or old inflammatory strictures; and the tissue thus apparently selected becomes in many instances swollen and softer. This reaction, like the therapeutic effect of remedies in general, varies in time and intensity with the method of administration. When the drug is injected, the reaction commonly becomes evident in about two hours and persists more or less actively for from five to six hours,

or even longer. The selective action thus demonstrated apparently depends upon its powerful lymphagogue properties; and, as pointed out by several observers, this property is not peculiar to it alone, as it is common in varying degree to all the amide group and also to various benzol and tar derivatives.

With such an affinity for the dissipation, by absorption, of fibrous tissue, the so-called sclerotic changes in the middle ear, especially when accompanied by tubal obstruction from the presence of fibrous stricture, should present a fertile field for the thorough use of this drug; and, in addition, its value from the theoretic point of view would apparently be enhanced by the observations made by Tousey, who found that after an injection of thiosinamine was given, a portion of the white blood cells was rapidly disintegrated and eliminated, the number falling to nearly one-third of the normal, while in a short time this leukocytolysis was followed by a marked leukocytosis often lasting for several days; the latter increase and activity of the leukocytes materially leading to the removal of any lowly organized tissue present in the individual.

As the result of the fairly well defined elective action of thiosinamine upon poorly organized tissue, it has been used quite extensively in various cutaneous lesions, such as lupus, where it seemed to have a field of especial value in obstinate cases when other therapeutic measures had failed, especially when used in increasing doses and where the treatment was systematically carried out. In keloid exceedingly satisfactory results have from time to time been reported, and in such morbid conditions as hypertrophied scar tissue, cicatricial contractions and in severe grades of urethral strictures, good results have been obtained after using the drug for some time; the fibrous tissue becoming pliable and soft, and allowing of additional treatment which had before proved of comparatively little value. In these conditions undoubted beneficial results have been observed, and its value in their treatment has been confirmed by numerous careful observers. While in other affections similarly characterized by fibrous changes, such as corneal opacities, scleroderma, sclerotic and adhesive changes in the middle ear, and in chronic joint affections with connective tissue alterations, the results obtained by different observers have not been either so extensive nor conclusive, although a number of reported cases have been materially benefitted, and further clinical studies with the drug along these lines seem most desirable.

From the results obtained in the various affections enumerated, all of which in part have a similar histologic basis, it would seem that in selected cases of middle-ear disease, thiosinamine should be of some benefit. The class of aural affections suggested for this purpose both by clinical and experimental use of the drug and by the small number reported in which it was administered, is characterized by sclerotic changes in the tympanic mucous membrane with restriction of the movements of the membrana tympani and ossicular chain, by the thickening of the tissue and the formation to a greater or lesser extent of cicatricial or fibrous adhesions, with consequent impairment of vibratory sound transmission and reduction in the auditory acuity. The vast majority of these cases are also associated, as an essential part of the morbid chain of events, with more or less localized thickening of the walls of the Eustachian tubes, the middle-ear affection being in great part secondary in nature. The tubal obstruction in many of the cases approaches almost to the condition of complete stricture from the localized development of fibrous tissue, and thereby not only acts in great part as the primary cause of the aural sclerosis, but secondarily produces still further changes from the impairment of tympanic ventilation.

In the following cases thiosinamine was given in order to observe its effect upon the pathologic conditions present; and during the early part of the treatment in some of them it was used to the exclusion of all other medication.

Case I.—Mrs. L. D., age fifty-six years. Impairment of hearing for an indefinite number of years, but tinnitus had only been severe for two months. The usual condition of chronic sclerosis with marked retraction of the drum was present, and the Eustachian tube could not be opened by politizerization. Thiosinamine, $\frac{1}{2}$ grn., was given her after meals. The first few doses produced considerable nausea, lasting for about one hour. The drug was persisted in, however, to the exclusion of all other treatment. After two weeks there was considerable improvement in hearing, and the tinnitus was inconstant. After three months she could hear ordinary conversation quite distinctly, the tinnitus had entirely disappeared, and the tubes were patulous.

This case presented undoubted evidences of the value of the drug in selected instances, and the results obtained were better than those in the other individuals in whom it was used.

Case II.—Miss S. Q., age twenty-one years. Same aural condition as in the preceding case, but to a more marked degree: firm ankylosis of the ossicles; the tube patulous. The disease had existed since early childhood and presented no improvement after several years of various forms of treatment. Thiosinamine was used in $\frac{1}{2}$ -grn.

doses three times a day; for three months alone, but without any improvement. It was then used with aural massage, careful attention to the sclerotic upper respiratory tract and her general health; but after nearly a year's trial it was abandoned as useless.

Case III.—W. B., age thirty-six years. Chronic otitis for a number of years, with partial impairment of hearing but distressing tinnitus. Commenced with $\frac{1}{2}$ grn. after meals, and reached a maximum of 1 grain in three weeks. The result was good as regards the hearing; while the tinnitus, although still present at times, no longer was the source of any annoyance. The patient continued taking the thiosinamine for nearly eight months; he then discontinued it, as he considered himself sufficiently improved.

Case IV.—Mrs. M. S., age fifty-three years. An old case of locomotor ataxia, with much thickening of membrana tympani and immobility of ossicles following an attack of grippe twelve years previously. The malleus and incus had been removed from one ear, without effecting any change either in the deafness or the extreme and continuous tinnitus. Thiosinamine was given in 1-grn. doses three times daily, as a forlorn hope. Although used continuously for nearly a year with other treatment, no appreciable effects were obtained; and the condition of the patient still remains unchanged.

Case V.—D. U., age sixty-two years. Marked deafness and tinnitus. After six months' use of the drug in doses of 3 grn. daily, he stated that the hearing was considerably improved and that the tinnitus only appeared occasionally and then was of but slight moment. As regards the hearing, the results were somewhat doubtful; for although the patient claimed that the drug produced considerable improvement, yet careful tests with watch, tuning fork and voice, showed no appreciable change.

Case VI.—Mrs. A. G., age sixty-nine years. Deafness for at least twenty years; marked tinnitus; Eustachian tube impervious to air on catheterization. Softening of stricture of tube with ventilation of tympanum, after six weeks of thiosinamine, but no appreciable results on the impaired hearing after continuance of treatment for seven months. The tinnitus improved from the first, then remained stationary, with no further change despite treatment.

Case VII.—A. C., female, age twenty-three years. Hearing impaired so that loud shouting is necessary to make her understand; due to residual adhesions, the result of suppurative otitis in childhood. Tinnitus was extreme and both drums were thickened, perforated and retracted. After three months of thiosinamine in 1-grn. doses three times daily, the adhesions became more flexible, the mucosa of the tympanum presented a more natural hue than before, the hearing was improved so that the voice could be heard at five feet for ordinary conversation, and the tinnitus was of a much lower pitch so that it no longer was annoying. One year later the improvement had still continued, and the drums were freely movable, whilst before they were both thickened and rigid.

Case VIII.—Miss P., age twenty-nine years. Mild grade of Eustachian obstruction and consequent changes in the middle ear of nearly two years' duration. The hearing was impaired to the extent of keeping her constantly on the alert in order to catch the conversation of those around her. No treatment was used except the thiosinamine in 3-grain doses daily. The results, while slow, were perfectly satisfactory, as after three

months' treatment ordinary conversation was heard with perfect ease.

Cases IX, X.—Females, twenty-four years of age. Chronic adhesive otitis of about two years' duration. The cases were strikingly similar in many respects; the hearing being reduced to contact for the watch in each, and tinnitus was present, although not to a marked degree. Thiosinamine was given as in the previous case, and after daily use for two months, without further treatment, the watch was heard ten and fourteen inches respectively, and little effort was required to catch ordinary conversation. The patients then refused further treatment, as they considered themselves sufficiently improved.

Case XI.—C. G., age forty-three years. Deafness, vertigo and tinnitus; the associated complex of symptoms comprising the so-called "boiler-makers' deafness," of eight years' duration. A maximum dose of $\frac{1}{2}$ grn., three times daily, of thiosinamine was given, as more than this amount produced nausea. No effect from the drug was observed for two months; but after this, and continuing until the present time, a year's continuous treatment, the results have been fairly satisfactory: the vertigo has entirely ceased, the tinnitus is diminishing, and the hearing has improved for loud conversational voice (a loud whisper not being heard at all).

Case XII.—Mrs. I. D., age thirty-six years. Marked indrawing of right drum and adhesion to promontory, with deafness and tinnitus of ten years' duration. Three months' treatment with thiosinamine alone in 3-grn. daily doses, and afterward four months', with both this drug and associated measures, failing to effect any noticeable improvement, the treatment was thereupon discontinued.

In all of these cases the method of administering the drug was by the mouth, and in doses of from $\frac{1}{2}$ to 1 grn. three times daily, in the form of powders or capsules. Thus given, it rarely produced any untoward disturbances, and could be used for long periods of time, in the majority of instances, with the production to a greater or lesser degree of the therapeutic results desired. In a few cases seen recently the method of administration was varied by giving 3 grains daily in divided doses for two weeks, then increasing the dose to 6 grains daily; but nausea was complained of in nearly all the patients who received the latter amount, and therefore no further trials were made with the increased dosage. In all the affections for which thiosinamine has been recommended, including aural diseases, the favorite mode of administration has been by subcutaneous injection, usually of a 5- to 10-per-cent. solution; but while it apparently produces a more prompt impression when used in this manner than when given by the mouth, this method presents no special advantages in cases the nature of which implies a long and continuous course of treatment, and in addition the injections are somewhat painful on account of the drug being more or less irritating in its nature.

The treatment should be continued at least six weeks; and if evidences of the physiologic action of the drug are not forthcoming by that time, it is fairly probable that it will prove useless in that particular case. However, no hard and fast rule should be insisted on in this connection, for while some cases, especially of Eustachian stricture of one or two years' duration, react quite rapidly, other cases of longer duration will present no apparent beneficial results for several months, then the catheter will demonstrate marked evidences of softening of the fibrous tissue. From my experience in aural work with thiosinamine, the results obtained seem to be fairly permanent in comparatively recent cases, that is, in those where the impaired hearing was of but one or two years' standing. In cases of much longer standing which react to the drug, some of its good effects remain for a considerable time, but unless it is given from time to time, the disease progresses and the impairment of hearing gradually grows worse again.

While all of the patients treated with this drug received it to the exclusion of other remedies at first, it soon became apparent that it was not equal alone to a combined treatment; and therefore the best results were obtained by the use of thiosinamine with the usual local and general measures employed in such cases—careful attention to the general health, the correction of abnormalities of the upper respiratory tract, and the use of mechanical measures applied to the affected ears, such as tympanic massage, Politzerization or catheterization if necessary. Used in conjunction with these measures, it was undoubtedly of considerable value; but when used exclusively, although in more than half of the cases its physiological action was clearly apparent and of direct benefit to the patient, the beneficial results were not so marked as when used in the manner indicated above.

While several authors mention that the drug is indicated in this class of aural diseases, from the results obtained in other affections, but little practical use of it has been made in otologic practice. Hubbard considers it worthy of careful consideration in catarrhal deafness, and Tousey states that it is valuable in that form of deafness due to lessened vibratory transmission, because of the existence of bands of fibrous tissue, and at the same time he reports a case illustrating its value. The most valuable studies, however, have been made by Beck, who first used the drug in five cases of chronic catarrhal otitis with impaired hearing and tinnitus, without any other

treatment. It was administered in these cases subcutaneously from three months to one year, but he found no perceptible change in the condition except that in three of the cases the tinnitus became bearable and somewhat changed in character. In nine other cases the treatment was combined with electrolysis of the Eustachian tube, local treatment of the nose and throat, Politzerization, and massage of the drum, with attention to the general health. This was carried out from two to eight months, depending on the rapidity of improvement. His conclusions, derived from all the cases receiving thiosinamine, were that without mechanical treatment the drug does not improve the condition except to produce some amelioration of the tinnitus; with both thiosinamine and electrolysis, the bougie could be passed with much greater ease and within a shorter time than without them, and, finally, that all the cases treated with both of these improved in from two to eight months in all respects.

It has been suggested that on account of the peculiar effect of thiosinamine on the form of morbid tissue previously mentioned, this drug would probably have some beneficial effect on hypertrophied tonsillar and nasal tissue, such as enlargement of the turbinated bodies; but while particular attention was paid to this feature in my cases, no especial effects were noted in about fifty per cent. of the cases who presented some turbinal hyperplasia, or in a smaller percentage with enlargement of the tonsils. The same may be said of the effects of the drug on the general condition of the patients. In no instance did it appear to have any tonic effect, and except for a slight diuretic action when given in the maximum dose, it in no way produced any action on the organism in general. When used for other conditions, malaise, headache and nausea have resulted from large dosage, and it has also been stated that urticaria has been produced, but none of these disagreeable features were observed in my experience with the exception of the nausea, which was trifling and disappeared rapidly without further incident. An occasional case has been recorded in which nausea and vomiting were the result of the excessive pain in sensitive individuals, produced by the subcutaneous injection of the drug; but while the administration in this manner is somewhat painful, the development of any untoward effects such as these can hardly be ascribed to the drug itself, but rather to the nature of the solution employed and its injection in a sensitive area.

Finally, certain contraindications for the

use of the drug exist, which should be taken into serious consideration in its application to the individual case. Thiosinamine should be avoided in cases where there exists old fibrous tissue which acts as a support to important structures, such as a cicatrix remaining after an abdominal section, where the softening action of the drug may result in the giving way of the scar and the production of a hernia unless the fibrous tissue should be of very long standing. It should also be avoided in an active inflammatory process, as the condition is undoubtedly aggravated under its use, and in chronic latent inflammations it should be carefully avoided, as it seems to have a decided tendency to awaken the inflammatory focus into increased activity. When the drug was first used extensively, it received from some clinicians the approbation of being of considerable value in tuberculosis; but while it may have a field of limited value in some forms of cutaneous tuberculosis, it has proven of decided harm in the pulmonary changes of this disease and especially in partially healed tubercular lesions, as it relights the encapsulated foci and allows the inflammatory process to become aggravated.

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 3554 N. Broad Street.

[Written for MERCK'S ARCHIVES]

AN INDEX OF DISEASES, ALPHABETICALLY ARRANGED, WITH THEIR MODERN TREATMENT

By G. Bjorkman, A.M., M.D.

Professor of Physiology, Milwaukee Medical College

(Continued from page 351, September issue)

CHOLELITHIASIS (gall-stones).—A catarrh of the intra- and extra-hepatic bile-ducts, including the gall-bladder, accompanied by the formation of calculi and promoted by micro-organisms of various types. The occurrence of this disease appears to be far more frequent than was formerly supposed. It has been proved by numerous autopsies that over half of cholelithiatic subjects pass through life without suffering from this cause, or without even knowing of the existence of the disease.

The etiological *conditio sine qua non* seems to be the presence of certain germs, among which bacillus coli, the typhoid bacillus and the common pyogenic micro-organisms seem to be the most frequent. This bacterial invasion is without doubt favored

by *stagnation* of the bile allowing superabundance of cholesterin to form, and lime and bilirubin to combine; these three substances constitute the composition in general of gall-stones. Frequently the biliary calculi may be so small that they pass entirely without giving rise to any symptoms; and sometimes they are present in great numbers. It is first when they conglomerate, or when the diameter of the individual stones reaches or surpasses that of the lumen of the ducts, that the process becomes subjectively manifest and the general symptoms present themselves: biliary colic, often with extreme agony, collapse; and nausea, sometimes accompanied by violent vomiting. If obstruction in the ducts exists, icterus will soon appear (first noticeable in the lower segments of the conjunctivæ), occasionally fever and disturbance of the digestion and appetite. If the attacks are frequent, and the jaundice rather persistent, the patient will often lose considerable flesh, and suffer from intense itching of the skin.

The biliary colic generally sets in abruptly but sometimes after a prodromal backache of short duration. The attack often begins in the right hypochondriac region, seldom radiating to the shoulder, but generally extending to the epigastric and lower thoracic regions, and down towards the umbilicus and sometimes over the whole abdomen. The paroxysm is of very variable duration: it may last only some few minutes, returning at intervals; or it may agonize the patient continually for hours, days and in exceptional cases even for weeks, with short intervals of ease and rest.

If a vesical distension and crepitus exist, the diagnosis is incontestable. Serious complications may occur: suppurative processes within the bladder and ducts; rupture of a duct with secondary purulent peritonitis; rupture into the air-passages with broncho-biliary fistula; mechanical obstruction of the alimentary canal by impacted stones; syncope and convulsions.

Treatment.—In severe cases of cholelithiasis operation is the sovereign indication. Here the patient is vastly safer in the hands of the surgeon than when left to the arbitrariness of his malady. Valuable time should not be taken up by medicinal experimentation and vain meddlesomeness. Explorative incision and digital examination can do no harm if performed *lege artis*, and with strict antiseptic precautions; it may establish a diagnosis and often give immediate relief to the sufferer even if gall-stones are not present.

The surgical treatment of cholelithiasis would indeed be accorded absolute autocracy,

on account of its glorious results, could it but afford full guaranty against relapses. Such is, however, not the case; so that the physician also has a part to play in the radical treatment and prophylaxis of cholelithiasis.

We must first recall to mind the conditions which are apt to invite or favor the formation of gall-stones: First a *sluggish flow* and *stagnation* of bile. This condition may rationally be overcome both by mechanical measures and by internal medication; and it is important to watch even after operation, in order to guard against recurrence of the attack. The normal hepatic circulation is most intimately dependent upon the physiological movements of the diaphragm. Sluggish diaphragmatic breathing is without doubt the cause of diminished metabolism not only in the spleen and liver, but in all the abdominal viscera as well (see *Archiv f. Anatomie*, von His und Braune, 1886, p. 195; C. Hasse, "Ueber die Bewegungen des Zwerchfells, und über den Einfluss derselben auf die Unterleibsorgane").

Mechanically to effect an increase in the flow of bile, simply means to increase the diaphragmatic respiration. Concerning the influence of this method on the lithogenetic processes I refer to Möbius, himself a sufferer from frequent biliary colics. He says: "Diminished diaphragmatic respiration I consider as one of the most conspicuous causes of gall-stones. I have by means of daily respiratory exercises (by repeatedly forcing the diaphragm to deep movements) rid myself of this dreadful disease." (Buttersack: "Nichtarztneiliche Therapie," Verl. Aug. Hirschwald, Berlin, 1901, page 116.) Sydenham, also a sufferer from severe nephrolithiasis, recommended and used himself this same respiratory method: "In se ipso tristem aphorismi veritatem expertus est." (Anmerkung von Haller zu Boerhave's Aphorismen, III, p. 198.) Moreover, Joh. Müller, Tissot, Bamberger and Wunderlich, are other prominent advocates of the same principle.

It must be emphasized that such respiratory exercises should be practised daily, and continued long enough to make the increase in the diaphragmatic movements permanent.

I wish to draw attention to the fact that the treatment so far mentioned is only *prophylactic*, claiming neither to remove nor to dissolve existing stones.

Other causes of stagnation of the bile are frequent pregnancies, tight lacing, mental conditions depressing the circulatory nervous supply, prolonged febrile diseases such

as typhoid, enteroptosis, habitual constipation, overindulgence in cereal foods, vegetables and malt-drinks, lack of exercise and work necessitating a position of leaning forward.

The most powerful promoter of the flow of bile is good and healthy food; the most natural stimulant, indeed. Slow ingestion and proper mastication should be observed; starchy and saccharine foods avoided. Not much drink should be taken with meals. Even water in superabundance is apt to interfere with a normal performance of the digestive function. Carlsbad water may be taken an hour or two before meals. This has a flushing influence on the biliary apparatus; but it should not be drunk with meals or immediately after them, at least not in large quantities.

Horseback- and bicycle-riding, and general exercise in the open air, are to be recommended. Saline laxatives and liberal doses of calomel once or twice a week may beneficially influence a sluggish bile-system, and is to be recommended.

The aim of internal medication during an attack of biliary colic is neither direct expulsion nor solution of the stones. It is first, to prevent or shorten the paroxysms; secondly, to produce an increased flow of bile and as much as possible benefit the catarrhal condition by exterminating the omnipresent micro-organisms. In regard to the first palliative treatment, 0.0005 Gm. ($\frac{1}{120}$ grn.) of atropine sulphate with 0.015 Gm. ($\frac{1}{4}$ grn.) of morphine sulphate, hypodermically, is the customary medication. If the pain is very severe, a light chloroform narcosis may be resorted to until the morphine action sets in. In many cases of biliary colic, however, the morphine proves of little or no value. Here I have often obtained excellent results from the use of hyoscyamine sulphate, 0.001-0.0015 Gm. ($\frac{1}{60}$ - $\frac{1}{40}$ grn.), hypodermically; repeated if necessary. The much lauded olive oil has as a rule disappointed me. Far better results are attained by the administration of pure glycerin in tablespoon doses, repeated at short intervals if necessary. Hot fomentations over the seat of pain and hot drinks containing large amounts of bicarbonate are highly recommended as decidedly shortening the attack.

As regards chemicals effecting an increase in the biliary flow I will refer only to the sodium salts of glycocholic and salicylic acids, and glycerin. The glycocholate seems decidedly to increase the hepatic secretion in amount, and is by many authorities considered as a powerful solvent of biliary calculi. The salicylate acts not only as an ef-

fective antifermentative (in 0.8 per cent. solution) in the digestive tract, but it also stimulates in the highest degree the water-secretion into the hepatic ducts, thus causing a freer and more abundant flow of bile. The physiological action of glycerin administered per os in regard to bile-production is not fully understood. However, it increases, whether by direct or indirect influence on the liver-cells, the glycogenic function, and facilitates, undoubtedly owing to its hygroscopic properties, the secretion of water into the bile-ducts. Its occasionally immediate effect as a palliative in hepatic colic tends to show that it possesses other powerful influences on the biliary tract.

(326) Morph. Hydrochlor. . . . 0.2 (3 grn.)
Atropin. Sulph. 0.01 ($\frac{1}{6}$ grn.)
Aq. Laurocerasi. 20. (5 fl.dr.)

Inject 1 Cc. (16 min.) hypodermically; if necessary, repeat in half an hour.

(327) Tabl. Hypoderm. Hyoscyamini Sulpho., aa. 0.0015 ($\frac{1}{40}$ grn.)
No. v.

One to be dissolved in sterilized water and used subcutaneously. May be repeated in an hour if necessary.

(328) Suppos. Ext. Bellad. et Opil., aa. 0.02 ($\frac{1}{3}$ grn.) No. vi.
Introduce one per rectum every hour until effect is obtained.

(329) Glycerini 90. (3 oz.)

Tablespoonful repeatedly during a paroxysm until effect sets in. (As a prophylactic during the intervals between the attacks, teaspoonful doses four times a day may be administered for months.)

(330) Sod. Glycochocolat. Merck. 0.3 (5 grn.)

Dr. tal. dos. ad chart. paraffin. No. xv.
One three times a day for a month; next month two powders a day; and the third month one powder daily.

(331) Sod. Salicyl. e Gaultheria
prep. 0.5 ($7\frac{1}{2}$ grn.)

Dr. tal. dos. No. xxx.
One powder three times a day, continued for months.

(332) Amyli Trit. 30. (1 oz.)
Camphoræ 6. (90 grn.)
Zinci Sulphat. 15. (4 dr.)

Fiat pulv. Dr. ad scatulam.
Dusting-powder for the itching after icterus.

(333) Ichthyoli 4. (1 dr.)
Lani 30. (1 oz.)

Ft. ungt. Apply locally for the itching.
(Hot alkaline baths and hypodermic injections of pilocarpine [0.006-0.01] are also effective in severe pruritus.)

CHOLERA ASIATICA.—Epidemic enteritis of great malignancy and with serious general symptoms, caused by ingestion of Koch's spiro-bacillus. The "comma bacillus," as it is generally named, is quickly destroyed in acid media. The contagium gains access only through the digestive system (no other way of infection is known),

and meets with speedy destruction in the acid of normal gastric juice. If, however, a glandular gastritis exists, or other causes that alter the normal composition of the gastric juice, the virulent contagium passes unmolested through the pyloric orifice into the duodenum, where it meets specially favorable conditions for its multiplication and activity. It will there in all probability quickly bring about a severe infection, the clinical picture of which is known as Asiatic cholera.

The onset is sometimes very sudden, although the incubation stage is considered to be from two to five days. As the first symptom a more or less violent diarrhea appears. In the beginning the stools are yellowish, but soon assume the characteristic resemblance to rice water. Fever may or may not be present; rectal temperature is occasionally high (103° – 104°), notwithstanding a subnormal surface temperature.

Pulse feeble and small. Pronounced and annoying thirst. In most cases severe abdominal pains with tenesmus and incessant vomiting are present; also intense cramps in the legs, particularly involving the calves.

Total anuria is very common. Profound depression, collapse and sometimes coma set in; facies and integuments in general show evidence of the enormous loss of serum. The absorption of toxins gives a cadaverous cast to the patient's countenance. Cyanosis. The condition if not lethal now changes more or less suddenly, and recovery slowly ensues. The clinical picture thus offers three typical aspects: (1) Premonitory diarrheal stage. (2) Stage of collapse; and (3) stage of reaction.

Treatment.—Prophylaxis is imperative; total isolation of the individuals, and thorough quarantine when an epidemic rages. The thorough disinfection of stools, bed linen, and garments of the patient and those in contact with him, is essential. Absolute cleanliness in every direction will soon extinguish a menacing epidemic. If the spread of the disease is due to contaminated drinking-water, great care should be taken to have the water thoroughly boiled before use. Absence of water and direct sunlight will quickly destroy the micro-organisms; so will acid media, as stated above.

The utmost care should be taken to keep the stomach in good order. Excesses in eating and drinking and exposure to sudden changes in temperature should be rigidly avoided. Acidulated drinks (lemonade) may properly be used; alkaline waters and flavored soda-water should be avoided. Raw fruit and vegetables should be dropped from the diet; well cooked they

are harmless. All food stuffs should be thoroughly protected from contamination by flies. It has been proved that these insects frequently are carriers of the cholera-contagium, which remains virulent for several days. Mental depression and also excitement, sudden changes in habits, dress and diet, should be avoided. If the stomach is weak and there is incessant or violent vomiting, medicinal treatment per os should not be attempted; it may aggravate the condition and exhaust the patient, increasing as it often does the vomiting. As a palliative against the pains and cramps, 0.015 Gm. ($\frac{1}{4}$ grn.) of morphine with 0.0005 Gm. ($\frac{1}{120}$ grn.) of atropine hypodermically, is very effective and may be administered repeatedly if needs be, providing the heart is good. The very annoying muscular cramps are often quickly relieved by inunctions with an oily chloroform liniment (see below).

If the case comes under observation in an early stage, calomel (see below) in good size doses several times a day may be of greatest value. A slight diarrhea is by no means a contraindication to its use. In the algid stage heat applied externally and warm drinks (if the stomach permits) are of great benefit and comfort the patient considerably. Rubbing with warm oil, hot packs or warm baths are preventives against depression and collapse. Coffee, tea, and hot wine are beneficial; coffee seems to have an antiemetic action.

Against the violent vomiting silver nitrate (see below) seems to be one of the best remedies. Iced champagne, ice pills, and epispastics over the vagus, are sometimes of value. Lemonades of hydrochloric, citric, and lactic acids (see below), are not only good prophylactics but are of material benefit during the whole course of the disease, if the condition of the stomach will tolerate them. If the heart shows signs of depression, stimulants are imperative and should be resorted to early in the disease—ether, camphor, and musk, hypodermically (see below).

The most rational therapeutics is to reach the infection in loco; and this has lately been tried with undeniable success. Cantani was the first instigator to use this method, which has been named "enteroclysis." Powerful antiseptics in warm solution are injected through a soft rubber catheter as high up as possible in the colon, and allowed to remain there. The remedy most in vogue is pure tannic acid (see below). This agent seems to exert the double action of antifermentative and astringent. The large amount of water in the enema makes

up for the enormous loss of serum in the circulation, if intestinal absorption is not too impaired by epithelial desquamation. Half a gallon or even more of warm 2-per-cent. solution of tannic acid is frequently used.

The concentration of the blood is properly met by intravenous or, better yet, subcutaneous injections of 0.6 per cent. warm sodium-chloride solution. This process is named "dermoclysis," and serves also the dual purpose of favoring the elimination of toxins and guarding against depression and sudden collapse.

The diet should be very mild during the convalescence: broths, plain soups, milk and toast, beef tea and predigested foods.

- (334) Argenti Nitratis.....0.06 (1 grn.)
Glycerini.....10. (2 fl. dr.)
Aq. Fœniculi, ad.....60. (2 fl. oz.)

Dr. ad vitr. nigr.

Teaspoonful several times a day. (For the vomiting.)

- (335) Ichthargani.....0.125 (2 grn.)
Glycerini.....10. (2 fl. dr.)
Aq. Fœniculi, ad.....60. (2 fl. oz.)

Teaspoonful three or four times daily. (For the vomiting.)

- (336) Mentholi.....3. (45 grn.)
Chloroformi.....30. (6 fl. dr.)
Olei Olivari, ad.....90. (3 fl. oz.)

Rub in several times a day at least ten minutes. (For cramps in the calves.)

- (337) Hydrarg. Chlor. Mitis..0.5 (7½ grn.)
Sacch. Lactis, q. s.

Ft. pulv. Dr. in triplo.

To be taken two or three times a day in the initial stage of Asiatic cholera. At a later stage smaller doses of calomel frequently repeated should be given.

- (338) Acidi Lactici (Merck).. 6. (90 min.)
Syrupi Citri.....40. (1 fl. oz.)
Aque Dest., ad.....180. (6 fl. oz.)

Tablespoonful in a little water several times a day. (A palatable lemonade.)

- (339) Camphoræ.....10. (2½ dr.)
Ol. Amygdal.....40. (11 fl. dr.)

Inject 1 Cc. (16 min.; = 3 grn. camphor) hypodermically. (May be repeated every one to two hours until pulse becomes stronger.)

- (340) Ætheris.....15. (5 fl. dr.)
Camphoræ.....1.5 (23 grn.)

One to two Cc. hypodermically. (As heart stimulant.)

The use of opium in Asiatic cholera requires a great amount of judgment on part of the physician. I think the objection urged against this drug is not based on sufficient evidence. Clinical results show that the opiates in many cases are of great benefit. It is proper to combine opium with powerful astringents and antiseptics. Xeroform is very efficient in this respect.

- (341) Xeroformii.....0.5 (7½ grn.)
Opii Pulv.....0.025 (⅓ grn.)

Ft. pulv. Dr. tal. dos. No. XII.

One powder repeatedly, during the day.

- (342) Acidi Tannici.....10. (2½ dr.)
Aque Sterilis2000. (2 qts.)
Gummi Acaciæ.....50. (1½ oz.)
Tr. Opii.....Gtts. xxx. (30 drops)

Cantani's enteroclysis solution.

- (343) Sodii Chloridi.....4. (1 dr.)
Sodii Carbonici.....3. (45 grn.)
Aq. Dest.et Sterilis, ad.1000. (1 qt.)

Cantani's dermoclysis solution. To be injected subcutaneously at a temperature of 104° F.

A favored preparation for internal use is Botkin's anticholera mixture:

- (344) Tr. Cinchon. Comp.,
Spirit Æther. aa.....15. (5 fl. dr.)
Quin. Hydrochlor.....4. (1 dr.)
Acid. Hydrochlor. Dilut. 2. (30 min.)
Tr. Opii.....3.5 (1 fl. dr.)
Olei Menth. Pip.....Gtts. x. (10 drops)

Twenty drops every two hours.

[TO BE CONTINUED]

[Written for MERCK'S ARCHIVES]

KIDNEY COMPLICATIONS IN THE PUEPERAL AND OTHER STATES

By O. Henley Snider, A.M., M.D., Atlanta, Ga.

THAT kidney complications are frequently the cause of grave consequences in diseased conditions that were primarily independent of these organs, is a fact that will hardly be questioned, and that such complications are inadvertently overlooked when timely attention thereto would have prevented a fatal termination, is equally true.

There are but few diseased states of the human economy in which the kidneys do not sooner or later assume a morbid relation, and this is brought on by excessive undertakings in their normal function, while they stand sentinel for the entire system in the elimination of effete waste material.

A too intimate knowledge of the physiology of these organs cannot be gained.

We have only to take a cursory glance at the proper relation of the kidneys and their physiological function to realize their delicate position, and the ease and promptness with which they are encumbered during the process of disease.

A most interesting case, related in detail hereafter, which was under observation for a year, suffered a miscarriage, became pregnant within two months subsequently, was confined after normal period, progressed nicely therefrom, and was suddenly seized thirteen days thereafter with a "septic metritis," narrowly escaping death, by attention being turned upon the kidneys as the prime rather than merely incidental factor.

Mrs. S. G. B., a primipara, thirty-four years old, miscarried from fright occasioned by grasping a snake in her hand when reaching behind a trunk for kindler.

A slight flow which set up almost immediately culminated on the ninth day with a severe hemorrhage, from which recovery was very tedious.

Iron in its more common forms failed to bring perceptible improvement, and past experiences with gaduol¹ in anemia and debilitated conditions suggested its application in this case. It was therefore given in half teaspoonful doses at intervals of four hours for two days, the dose being gradually reduced to ten drops thereafter. This treatment brought marked improvement within a few weeks. The appetite became normal, natural sleep returned, and the patient gained in strength and physical comfort, yet the natural appearance of the skin failed to return, remaining a purplish green tint.

The patient again became pregnant about two months after the miscarriage, and the benefits from the use of gaduol were so gratifying that she was instructed to keep it up and was dismissed.

I attended her in confinement at expiration of the normal period, finding her considerably edematous.

The only decided difficulty in the labor was due to the thickened, flabby or infiltrated (dropsical) soft parts, but cautious measures were necessary to resuscitate what was apparently for some time a lifeless male child of about 8 pounds weight.

The flow from the womb following was excessive in spite of the remedial means adopted. The patient was again placed upon gaduol after delivery (this drug having been discontinued some three months before confinement), and from the ninth day after confinement the patient was up and discharging light domestic duties.

On the seventeenth day after confinement the patient was suddenly seized with a severe chill lasting for over an hour, and when she was reached, probably an hour later, she had a temperature of nearly 107°, with pulse 118 and respiration correspondingly rapid and labored. The patient was extremely nervous and somewhat delirious—not comatose.

This being the first temperature of 107° encountered in the writer's experience of some twenty years (except a temporary pyresia due to traumatism), counsel was immediately sought of two most trustworthy colleagues, and the patient was thoroughly examined. The uterus, which first suggested acute septic metritis, contained only a small quantity of recent blood clots, mucous membrane and other harmless debris.

It is well to state in passing that the vaginal discharge stopped simultaneously with the coming on of the chill and did not appear again.

Examination disclosed the fact that the previously persisting discharge since confinement came from the left tube and ovary—salpingo-oöphoritis; and that while a general systemic infection could not be doubted, it was brought on by an auto-infection through renal insufficiency, and that the essential state was one of acute Bright's disease.

Beginning a treatment suggested by the symptoms as they presented themselves, digitalis and jaborandi brought the temperature down to 102½° within nine hours, and it did not rise again above 104°. Carefully guarding the case and meeting the indications variously, brought a surprising improvement within four days, and having had some previous valuable experience in the use of formin² in kidney troubles, the writer suggested its employment in this case in conjunction with gaduol. The latter was depended upon for its admirable reconstructive and general tonic properties, while the formin had proved an excellent urinary antiseptic and aid in the eliminative processes in past experiences. After the more acute symptoms had subsided the suggestion was readily acceded to.

The patient made a reasonably rapid recovery with attention to diet and hygienic environments, her health being better in a general way within ninety days than it had been for over a year previously.

The feature in this case that becomes of great importance is the fact that a benign or latent nephritis had undoubtedly existed from the date of the miscarriage, about one year before its discovery, being set up no doubt by the excessive burdens imposed upon these organs in a weakened state at the time of the miscarriage and severe hemorrhage, and incident to conveying the poisonous material from the system.

Of course, the foregoing facts may perhaps be regarded as evidence of carelessness on the part of the writer. They are related simply because of his belief that to relate our adverse experience is frequently of value to the profession.

In kidney complications we not infrequently find heart symptoms that would of themselves usually be looked upon as grave, as, for instance, a peri- or endocarditis.

Such a case was that of a lad, five years old, who suffered an attack of scarlatina in the fall of 1901, and who developed what

¹ Gaduol is an alcoholic extract of cod-liver oil. It is a brown, oily liquid, containing the alterative principles of cod-liver oil (iodine, bromine, phosphorus and alkaloids). Dose usually given is from 5 to 30 min.—ED. M. A.

² Formin is hexamethylene-tetramine, a uric-acid solvent and urinary antiseptic used in gonit, cystitis, etc. Dose: 5 to 15 grm., two or three times daily.—ED. M. A.

appeared at the time as only a severe cold brought on by too early exposure after exfoliation. A severe pharyngitis came on, however, followed by a subacute ethmoiditis and atrophic rhinitis, the lesion extending to the frontal sinus and occasioning attacks of a most excruciating coryza.

The cervical lymphatics presented various sized nodules, and the lad at this point showed a serious state of retrograde metamorphoses, malnutrition and emaciation, and the general symptoms of a plain scrofulous type suggesting tuberculous dyscrasia, though no examinations were made for tubercle bacilli. Urine was of a low specific gravity, turbid and usually scanty. The skin was pale and flabby, and the lad was easily fatigued, though possessing a fairly normal appetite and digestive powers, and the bowels were generally active. Continued examination revealed a pericarditis in this case, the pulse being very irregular.

After this condition had existed for over five months without the least benefit from the common alteratives, iodides and hypophosphites, this patient was given gaduol for its reconstructive properties, and the formin was suggested by the morbid kidney conditions. The lad showed marked improvement within two weeks, the tendency to edema disappeared and the increase of red globules was marked and gratifying.

I could, if space permitted, relate other instances of kindred circumstances in which the kidneys, at first unnoticed, later became of prime importance, incidentally to illustrate the medicinal virtues of formin over diseased states of the kidneys, whether as a part of the original disease or as a complication; and to emphasize the value of gaduol in any condition characterized by tissue-waste, emaciation, etc.

In conclusion, it will probably be of advantage to state that formin has been used with especial advantage in gout and other rheumatic conditions, or other uric-acid excesses; and in some cases of cystitis, calculus, etc., it has given valuable results.

The gaduol is a reconstructive tonic par excellence, but more especially indicated in tuberculous and other states suggesting the administration of cod-liver oil or the hypophosphites. The most convenient form of administration is that of wine of cod-liver oil made from the gaduol, etc.

130 Decatur Street.

CONTRASTS BETWEEN CERTAIN COMMON DISEASES IN CHILDREN AND ADULTS¹

By J. Walter Carr, M.D., F.R.C.P.

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DISEASE in childhood differs in many and important respects from disease in adult life. In the first place, it presents certain special features more or less peculiar to early life. Thus we are constantly being reminded of the readiness with which in children the temperature rises, often to an alarming height; and the younger the child the more unstable is its temperature, owing to the imperfect development of the heat-regulating mechanism. We may note also that the pulse and respiration rates are disproportionately accelerated by any pyrexia. Closely related, doubtless, to this proneness to fever is the instability and reflex irritability of the nervous system in children; their proclivity to convulsions, either general or local, such as laryngismus stridulus and carpopedal contractions, affords a good illustration of this. We know how secondary nervous phenomena frequently mask other symptoms, and so lead to serious errors in diagnosis and prognosis; e.g., when acute croupous pneumonia in an infant is ushered in by a convulsion, followed by severe vomiting, and later on by a semistuporous condition, with strabismus, head-retraction, and perhaps irregular breathing, what more natural than a diagnosis of meningitis? Again, another feature of disease in childhood is its tendency to generalization. This is well seen in catarrhal conditions of the mucous membranes. In how many cases of bronchitis and bronchopneumonia, for instance, in young patients, is diarrhea a troublesome and often a persistent symptom? In tuberculous disease this tendency is still more marked. How comparatively rare, for example, is acute miliary tuberculosis in adults as compared with its frequency in children? In 120 consecutive autopsies upon children suffering from tuberculous lesions, I found that in no less than 82 the disease was more or less generalized; by which is meant either that there was evidence of infection through the blood, as indicated by the presence of miliary tubercles in several or most of the organs, or else that there were two or more independent tuberculous centers in different parts of the body, obviously not due to simple extension by continuity, nor even to direct infection from one part to another, as of the bowel from the lung, by

¹ *Edinburgh Med. Jour.*

"I have enjoyed the contents of the ARCHIVES equal to or perhaps beyond any medical journal yet considered; in fact, it approaches my ideal of a medical journal."—HENRY CHAVANNE, M.D., Salem, N. J.

swallowed sputum. In fact, in only 12 of the 129 cases had a *localized* tuberculous process been the actual cause of death, as made known at the autopsies.

There is no occasion here to more than mention that children rarely have rigors—convulsions taking their place—and that frequently they do not complain of the throat even when suffering from diphtheria or acute tonsillitis; so that the throat of any child who has an obscure illness should be examined as a matter of routine.

In addition to the above more or less special features of disease in childhood, and others which might be mentioned, there are a number of diseases which occur either exclusively, or at any rate most frequently in children, *e.g.*, rickets, infantile paralysis, chorea, broncho-pneumonia, and many of the acute specific fevers. These call for no remark here; they are universally regarded and studied as diseases of childhood, and it is rather their occurrence in later life which demands special reference. What I wish to deal with particularly in this article are certain diseases which are very common both in children and adults, and which we are very apt to regard too exclusively from the standpoint of their course in adult life. This one-sided view dates back usually from student days; for, in the ordinary text-books on medicine, any features peculiar to these diseases, when occurring in childhood, are apt to be more or less ignored, and left to special treatises for description; whilst even in general hospitals their special characters in early life only too often pass unnoticed, owing to the rapid growth of children's hospitals during the last few years. Hence it is very often assumed that any disease to which adults are subject will, if it attacks a child, exhibit the same symptoms and run a similar course. This, however, is by no means always the case, as many affections present a marked contrast in course and symptoms, according to whether they occur in childhood or adult life; and ignorance of these differences may lead to serious mistakes. It will be well, therefore, to consider separately a few of the more important of these diseases.

1. ACUTE RHEUMATISM

The contrasts between acute rheumatism as it occurs in adults and in children are most marked and important; and the wider knowledge which during the last few years (largely owing to the writings of Dr. Cheadle) we have obtained of the course and varied manifestations of the disease in early life, have well-nigh revolutionized our views as to its nature and importance,

though probably even yet the full significance of the differences is not realized.

The clinical picture of rheumatic fever in adult life is one of the earliest with which we become familiar. The acute synovitis affecting several of the larger joints, with resultant pain and dread of movement; the flushed face; the profuse, sour-smelling sweat; the tongue thickly coated with white creamy fur; the scanty urine, loaded with urates; the moderate pyrexia—all combine to produce one of the most easily recognizable of clinical conditions. We learn also that various other troubles are prone to occur, especially in connection with the heart; but these we usually regard merely as complications. We are almost equally familiar, fortunately, with the eminently satisfactory results commonly obtained by the administration of sodium salicylate when given in adequate doses.

Very different is the clinical picture presented by acute rheumatism in early life. In a large number of cases the joint trouble is neither severe nor extensive; frequently it so slight that it may be, and undoubtedly often is, altogether overlooked, the child being allowed to go about, as he complains but little, if at all, of pain. In some cases an attack of rheumatic fever may occur without any recognizable synovitis, whatever. In addition, the tongue and the urine are in no way characteristic; there is no sweating, and no more pyrexia than constantly occurs in children from most trivial causes, such as a slight catarrh or gastro-intestinal disturbance. At first the natural inference is that in childhood, especially up to the age of five or six, rheumatic fever is not a common disease, and very mild when it does occur. As a matter of fact, the exact opposite is the truth. Rheumatism is exceedingly common in early life, and extremely serious; but whereas in adults we are accustomed to regard it as essentially a disease having its chief manifestation in the joints, with possible cardiac complications, in children it would be wiser and more accurate to consider it as a disease which attacks any or every part of the heart (endocardium, pericardium, and myocardium), with possible joint complications. The younger the patient the greater the liability to heart affection, and the less to synovitis; so that not uncommonly, I believe, an attack of acute rheumatism may be represented solely by an inflammation of some part of the heart, most commonly of the mitral valve. There is, I think, no doubt that cardiac murmurs, undoubtedly rheumatic in origin, occasionally arise, even in infancy, without there having been any definite symptoms of ill-

ness to attract attention; or, at most, the mother may have noticed that for a few days the child was unusually fretful, especially when moved.

As age advances, especially after ten years or so, rheumatic attacks begin to assume more of the adult type, though the joint affection and the sweating are less marked, and the tendency to heart lesions greater, than in later life. It should be remembered that even in adults the disease, especially perhaps nowadays, frequently assumes a subacute type, with but little furring of the tongue, no very severe joint pain, and a temperature which never rises above 101° . The often exclusive, or almost exclusive, influence of acute rheumatism upon the heart in childhood explains the origin (otherwise inexplicable) of a great number of cases of chronic valvular disease. I am accustomed to regard the existence of such disease (at any rate, when the mitral valve is affected) in patients under thirty, or even thirty-five years of age, as *prima facie* evidence of past rheumatism, unless, indeed, there is anything which definitely indicates some other cause. No doubt, in a very large proportion of these cases, both in children and adults, any history of rheumatism is quite unattainable; but this is only to be expected if the rheumatic attack occurred in early life, and was attended by joint symptoms so trivial that they were either overlooked altogether, or at any rate soon forgotten.

The moral, of course, is that in dealing with children it is imperative to be constantly on the watch for the slightest indication of rheumatism, and, whenever any symptoms do occur, to examine the heart from day to day. This is particularly necessary when there is any family or personal rheumatic history, and the parents should be especially cautioned on the subject, as it is by no means uncommon for children suffering from acute but unsuspected heart mischief to be allowed to go about, even for trips and excursions, under the impression that they need a little change and fresh air. Whether a child will become a hopeless cardiac invalid, and die at or before puberty, or will recover, with a heart but little if at all permanently damaged, depends more upon the maintenance of complete rest from the very onset of the inflammation, and for a prolonged period after, than upon any other factor. We are possibly so apt to be impressed by the striking results we can obtain by the use of digitalis and other cardiac tonics, in cases of chronic valvular disease, as to overlook the fact that it is of far greater importance so

to manage the case in the earliest stage that digitalis is never subsequently needed. Special care is necessary in dealing with children whose hearts have already been damaged by rheumatism, as fresh cardiac mischief is very readily lighted up, but may pass unrecognized either by signs or symptoms, owing to the presence of the old disease. For instance, endocarditis may repeatedly affect the mitral valve, each time increasing the pathological changes in it, but without at first modifying the physical signs already present. In such cases, when the existence of recent mischief is doubtful, much importance should be attached to a persistently rapid pulse, and to any rise of temperature, however slight, for which there is no evident reason; whilst the presence of subcutaneous nodules may be regarded as conclusive evidence of active heart disease.

In these cases it is wise to err, if at all, on the side of over-caution; hence, perhaps, the wisdom of regarding all so-called growing pains as rheumatic; though I think the assertion is too sweeping, especially when the pains follow considerable exertion. To those who say that growth should not be a painful process I would reply: Is the first dentition wholly painless, even in healthy children?

I need only refer to the fact that other manifestations of rheumatism are common in children, though unknown, or at least much rarer, in adults, a fact which fits in well with the modern view that it is a toxemia due to a special micro-organism, and not merely an affection of the serous and synovial membranes. We have to recognize as additional rheumatic affections—pleurisy, generally with but little effusion; tonsillitis, either follicular in character or taking the form of a diffuse pharyngitis; rashes, either erythematous or urticarial in type—in fact, an erythema in a child should always raise a suspicion of rheumatism; subcutaneous nodules, so important as indicating, as a rule, the presence of active heart mischief; and chorea.

Another phase of rheumatism in childhood, rarely if ever seen in adults, is a subacute condition, in which the patient seems to be saturated with the rheumatic poison, so that, it may be for weeks at a time, one manifestation has no sooner passed off than another supervenes, despite the most careful treatment. There is rarely much joint affection, but the heart is usually involved, and any of the conditions just mentioned are liable to develop. A slight rise of temperature from time to time is very common, it may be without apparent cause, but really

often due to heart mischief; in particular, an insidious form of pericarditis, without much effusion, is common in these patients, and may be exceedingly difficult of recognition. It often accounts for what would otherwise be a mysterious failure of compensation in old-standing mitral disease. In such cases of persistent rheumatism, a marked and peculiarly intractable anemia usually develops, and headache is often a troublesome symptom. As a result, these children often remain chronic invalids for years, and are fortunate if they escape without permanent and serious cardiac disease; in fact, with the exception of tubercle, there is no disease so to be feared in early life, alike for its frequency, its persistency, and its immediate and remote effects, as rheumatism. I have had under observation for several years a patient who, when about ten years old, had two slight attacks of rheumatic fever; and although he escaped any cardiac affection, he has ever since been liable to rheumatic pains, sometimes amounting to definite subacute attacks of rheumatism; has had dry pleurisy on both sides, and several attacks of tonsillitis; he has also been obstinately flabby and anemic, and liable to frequent and severe headaches, for which no cause except rheumatism can be assigned. As a result, he was for years a partial invalid, his school life was almost *nil*, and all his future plans and prospects entirely upset. Such a case is but a type of many, and illustrates the mischief which rheumatism may do, apart even from heart disease.

Lastly, it must be noted that salicylate of soda, salicin, etc., are far less efficacious in children than they are in adults, apart altogether from the fact that the heart is often seriously damaged before rheumatism is ever suspected. Whenever there is any fever, and for some time after, it is right to give one of these drugs, for children bear them exceedingly well, even for prolonged periods, and I have never been able to attribute any depressant effect to them; but whilst they control the joint affection, they seem to have little or no influence over the other lesions, including those of the heart. Indeed, fresh rheumatic manifestations (rashes, nodules, cardiac inflammations, etc.) sometimes develop in children who have been kept continuously in bed for several weeks previously, and taking salicylate of soda all the time. We have, in fact, as yet no drug which seems to do much good in these cases of rheumatic toxemia. The dilated and rapidly acting heart suggests digitalis, but it has exceedingly little effect; the profound anemia would seem to indi-

cate iron, but very often this disagrees, upsetting digestion without improving the blood condition; and sometimes, I think, favoring a recrudescence of rheumatism. All we can do is to give salicylate of soda or salicin, and perhaps alkalies, and to adopt the ordinary lines of treatment for any heart lesion which may be present—prolonged recumbency, iodide of soda, and strychnine or *nux vomica*, being probably especially useful.

2. TUBERCULOUS DISEASE OF THE LUNGS

I have already referred to the marked tendency of tuberculous disease in early life to become generalized, either as a blood infection, leading to acute miliary tuberculosis, or by the development of caseous foci in many different parts of the body. It now remains to deal with the differences between tuberculous disease of the lungs only in children and adults.

In later childhood, after eight and nine years of age, pulmonary tuberculosis commonly runs much the same course as in adult life, though the average duration is perhaps somewhat shorter; but before this age we rarely find it following the regular chronic course, with which we are only too familiar later on, namely, a consolidation, succeeded by softening and excavation, commencing at the apex and steadily progressing downwards. We must not, however, be misled into thinking that the disease is uncommon in young children; on the contrary, fatal cases begin to occur after the first three months of life, and from the end of the first year become exceedingly frequent, more so, probably, than at any period of adult life. The following, then, are some of the chief differences, according to the period of life at which the disease develops:

(a) *The starting-point is often different.* In adults, of course, the disease usually begins at the apex of the lung; in children it quite as often starts from the root. In the former, the bacilli, conveyed probably by the inspired air, tend, for various reasons, to lodge and develop at or near the apex; in the latter, the tracheal or bronchial lymphatic glands are frequently first affected, either by bacilli which have passed directly from the lung, or possibly by some which happen to be in the blood, and which lodge and multiply in glands rendered hyperemic by chronic bronchial catarrh, just as they may attack a joint which has been predisposed by an injury to receive infection.

The glands which lie imbedded in the lung close to its root become caseous, soften and eventually ulcerate through into the

bronchial tubes; sometimes the tuberculous material gets drawn into the lung, a diffuse caseation follows, and proves rapidly fatal. More commonly tuberculization extends along the bronchial septa, so that after a time small cavities form at the root of the lung or of one lobe, with caseous masses around in various stages of degeneration; and outside these, radiating fanlike towards the periphery, small tuberculous nodules, more and more sparsely scattered as the exterior of the organ is approached. It is fair to assume, in many more advanced cases in which the lung is completely disintegrated, but in which cavities are found near its root, with large masses of caseous glands adherent, that the process commenced in a similar way. It is no doubt possible that the disease may progress more rapidly in the glands than in the lung, so that it might be primary in the latter, though actually more advanced in the former; but in the cases referred to the peculiar distribution of the tuberculous masses, radiating from the root, seems clearly to point to infection from the glands.

(b) *The dissemination of the disease through the lungs is much more rapid and irregular than it commonly is in later life.* This applies to cases, not arising in the special manner just described, but due to direct infection through the air. Often there is no incidence of the disease at the apices, but caseous nodules are found scattered irregularly, and apparently indiscriminately, through all parts of the lungs, just in the same way as are ordinary patches of broncho-pneumonia; in fact, the distinction between the two diseases during life is often difficult, if not impossible. No doubt this broncho-pneumonic form of pulmonary tuberculosis does occur in adults, but certainly with much less frequency.

(c) *Cavities are not common* in tuberculous lung disease in childhood, at least so it is usually said, but the statement is not altogether accurate, for on the post-mortem table they are frequently met with. As a matter of fact, however, they are seldom large, and therefore rarely give rise to definite physical signs during life. Their small size depends partly on the tendency of the disease to spread so rapidly through the lungs that death occurs before there has been time for any large cavity to form; and partly on the great and constant liability which exists, even in the more chronic cases, for the disease to be brought to an abrupt and premature termination by the supervention of blood infection, and consequent general miliary tuberculosis.

(d) *The physical signs are more or less*

different. This necessarily follows from the differences already described between the anatomical characters presented by pulmonary tuberculosis in early and in adult life. The absence usually of definite cavernous signs has just been referred to, and is due largely, as explained above, to the infrequency of extensive excavation, but in part also to the fact that, even when cavities are present, they are difficult of recognition during life, owing to their being situated often in unusual and inaccessible positions, e.g., at the root of the lung, at the base or in the center of the lobe; and if, as is often observed, cavities are found post-mortem in cases of adult phthisis, which gave no certain evidence during life, even though situated in an ordinary and very accessible position at the apex, much more is it likely that the small vomicae, which may form in any part of the lungs in children, should pass unrecognized.

Another point to note is, that the physical signs may be exceedingly slight, even when the lung disease is most extensive. It is well known that miliary tubercles, even when the lungs are riddled with them, may give rise to no abnormal signs, except those indicative of a slight bronchitis. This, however, is comparatively easy of explanation; more surprising is the fact that the same thing may occur when disseminated caseous masses are present throughout the lungs, provided that actual softening has not taken place, and that no large areas of consolidation have formed, so that all parts of the lungs still contain a fair amount of air. Whenever a child, especially over eighteen months old, steadily wastes, and has more or less fever (not necessarily high), for which no obvious or sufficient cause can be found, the existence somewhere of tuberculous disease is highly probable, even though the most careful physical examination gives no certain corroborative evidence; and it should be remembered that, with few exceptions in childhood, if there is tuberculous disease anywhere in the body, the lungs do not long escape.

(e) *The symptoms differ in many respects.* It will be sufficient merely to mention that in children night-sweats are uncommon, and that both hemoptysis and tuberculous laryngitis are rare; the latter, in fact, being almost unknown. Children, of course, rarely expectorate; hence the sputum—often abundant—is swallowed, and so gastro-intestinal disturbance is set up; and also the extreme frequency with which tuberculous ulceration of the bowel is met with in children is explained. Since it is hardly possible to prevent the swallowing of

the sputum, it is important to keep the bowels regularly open, and perhaps the administration from time to time of small doses of an antiseptic purgative, like calomel, might tend somewhat to diminish the danger of intestinal infection.

3. HEART DISEASE

Congenital morbus cordis may be regarded as practically one of the special diseases of childhood, and therefore does not come within the scope of the present article. Diseases of the myocardium, on the other hand, are almost confined to adult life, though the effect of the diphtheria and the rheumatic toxins in causing dilatation of the heart, even in early life, must not be overlooked. Serious changes in the cardiac muscle due to rheumatism are, however, associated, as a rule, with endo- or pericarditis. Coming to the valvular lesions, we find that aortic disease, being usually a result of degeneration, strain, or syphilis, is relatively uncommon in children, and, when present, is generally associated with mitral disease; the latter, on the contrary, is exceedingly frequent, and, as already explained, may nearly always be regarded as essentially rheumatic in origin (especially if chorea is also considered as a rheumatic manifestation).

Now, mitral disease in childhood runs in some respects a different course from that which it does in adults. In the latter we associate it, at any rate in its later stages, with bronchitis and edema of the lungs, cyanosis, dropsy, albuminuria, great irregularity of the pulse, and a tendency to hemoptysis. It is quite true that all these may be present before puberty, but by no means constantly, perhaps not in the majority even of fatal cases. More frequently the child is pale and wasted, the pulse regular, and there is but little edema either of the lungs or legs. It is most important to bear in mind, first of all, that heart disease—whether congenital or acquired—is one of the wasting diseases of childhood. Compensation may be sufficient to enable the actual requirements of the different tissues and organs to be met, but is rarely adequate to provide for growth also; consequently, wasting and anemia result, and at puberty, when growth is most rapid, the strain often proves too great, and death follows. If a child with valvular disease passes through the period of puberty without serious symptoms, it may generally be assumed, *ipso facto*, that the lesion is not very severe. It follows too that, other things being equal, the prognosis of mitral disease is more serious before than after puberty. Of course, in advanced life, the lia-

bility to degenerative changes again influences the prognosis unfavorably.

In the latter stages of mitral incompetence in adults, irregularity of the pulse is a pretty constant and marked feature, and it is also to a less extent in mitral obstruction; whereas in children, up to the age of twelve or thereabout, it is rarely produced by mitral disease, no matter how advanced. When it is present in childhood it usually indicates meningitis, though it may result from gastric disturbance; certainly it is rarely due to heart disease. Still more remarkable, however, is the way in which mitral disease may prove fatal from increasing weakness and wasting, with few or no symptoms of back pressure, the right ventricle apparently doing its work with fair efficiency to the last. In such cases the absence of dropsy, albuminuria, and cardiac irregularity may easily mislead a practitioner into giving far too favorable a prognosis, especially as death is apt to occur quite suddenly from syncope, particularly if the heart is hampered by pericardial adhesions.

The physical signs of valvular disease are much the same in children as in adults, except that precordial bulging is seen far more frequently in the former, owing to the greater softness of their chest walls. It is often particularly noticeable in cases of adherent pericardium. Even when present in adult life it generally indicates that the cardiac lesion commenced in childhood.

[TO BE CONCLUDED.]

BREWERS' YEAST IN THERAPEUTICS*

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THE yeast is a fungus plant to be classified with the lower form of biologic life. It absorbs oxygen and gives off carbon dioxide; its life is also independent of light, thus differing widely from green plants. Yeasts are of importance to us because their study by De la Tour and Schwann in fermenting beers and wines led Pasteur, Koch and others to make the further wonderful observation which resulted in the evolution of the study of the lowest botanic life, the schizomycetes, or bacteria; and their knowledge in turn made possible the great strides medicine has made in specific causes of disease and measures prophylactic and therapeutic for the combat of disease as produced by such causes. For our purposes we can differentiate two kinds of yeasts: (1) The

* *American Medicine*.—(The small numbers refer to the "Bibliography" at the end of article.)

pathogenic and (2) the nonpathogenic. Pathogenic yeasts may be subdivided into those producing certain effects on animals, as (1) pyogenic; (2) granulomatous; (3) toxic, etc.

J. R. Foulerton¹ separated pathogenic yeasts from two cases of pharyngitis, as did also Busse.² Rabinowitch³ found in a study of 50 wild yeasts seven pathogenic for lower animals. F. Sanfelice,⁴ using *Saccharomyces neoformans*, produced new tissue formation in lower animals, and thereupon R. Binaghi⁵ and D. B. Roncali⁶ attributed the formation of cancer to blastomycetes, although their observations have received no verification either from the New York State Cancer Laboratory, under the direction of Park and Gaylord,⁷ or the Harvard Cancer Committee, under Nichols.⁸

These experiences are mentioned because had it been proved that yeasts were the cause of cancer, undoubtedly a serum could have been obtained; but the nodules as produced are not identical with those studied in cancer.

Fabre Demorgue,⁹ in an article on serum treatment of cancer, concluded as follows:

1. Serum therapy is logically applicable only to microbic affections or those which by symptoms are supposed to be such.

2. Cancer does not belong to this group, for (a) the fact of its more frequent occurrence in one neighborhood or house only proves that the exciting cause is more frequent there and not that cancer is contagious; (b) a parasite is not necessary for the transplanting of a cancer or living cell, cancerous or not; (c) the pseudococcidia have not been proved to be parasites.

3. The facts interpreted to prove the curative action of serum injections (whether crysipelas toxin or juice of a sarcoma) have the same value as those known before of the modifying action of chemic substances, as oil of phosphorus or picric acid, which cause a local aseptic necrosis which attracts leukocytes so that the part is absorbed and the tumors undergo a temporary diminution in size.

In view of these facts we may at this time exclude the pathogenic yeast from our consideration of therapeutic value, and consider the nonpathogenic yeasts of which *Saccharomyces cerevisiæ* is a type in its relation to therapeutics.

Yeast is of tremendous importance in the arts because of its production of fermentation. In the presence of the fungus, with small quantities of phosphates and albuminoid matter, glucose is converted into alcohol and carbon dioxide, together with small portions of glycerin, succinic acid and other substances. *Saccharomyces cerevisiæ* is a powerful form of top yeast (Oberhefe). Microscopically this yeast is composed of round or oval cells, generally multiplying by gemmation or budding; the buds formed be-

come divided from the parent cell by a diaphragm; but they frequently remain adherent after giving rise to further buds themselves, so that chains of greater or less length are formed according to the number of generations remaining attached. The cells are enclosed with a thin membranous wall, and the granular protoplasmic contents exhibit one, two or more vacuoles. The size of the cells varies from $2\frac{1}{2}$ to 6 micromillimeters.

Many ferments have been isolated, and it may be due to them in soluble form, secreted or contained in the protoplasm, that it owes its therapeutic value. Among these ferments invertin, which transforms cane sugar to dextrose and levulose; zymase, a monosaccharid splitting ferment; endotrypsin, a proteolytic ferment, and possibly a glycogenic ferment. Besides the ferments the protoplasm also contains a proteid nuclein.

From what deduction can we argue that brewers' yeast is of value to the body?

The study of immunity has taught us that the natural resistance of the body is due to one of several causes: (1) The fixed and movable cells have an inherent property of secreting a substance proteid in character which acts protective to the organism; (2) Metchnikoff's phagocytic action of the polymorphous leukocytes acting by (a) chemotaxis and (b) by secreting a substance germicidal in character; (3) the body is capable of producing under stimulation of certain proteid enzymes the antitoxins, as seen in the production of an antitoxic substance in diphtheria and tetanus; (4) when the body has lost its resistance the presence of a secondary agent may retard or inhibit the primary infection, as Coley's toxin injections in sarcoma.

Brewers' yeast is rich in nuclein, and nucleinic acid is capable of producing a leukocytosis (Huber), thereby increasing the body resistance. McClintock, Novy, and Vaughan¹⁰ have shown that the nucleins are powerful germicides and demonstrated that the germicidal quality of the blood is due to them. Brewers' yeast also increases the vigor of the central nervous system.¹¹ It contains ferments which are of importance to digestion. Yeasts are present in gastric contents and feces. They are not pathologic. It has been proved that bacterial life, because of the ferments contained, is necessary to normal digestion, so that it may be inferred that brewers' yeast because of the many and varied ferments contained or secreted is a powerful aid to digestion. It not only acts upon the food, as contained within the intestinal tract, but its ferments in a

soluble form may become assimilated and have to do with body metabolism.

As an example, it has been shown that a quantity of glucose which produces glycosuria ceases to do so if a small quantity of yeast is administered. It is also possible that like lipase, a ferment which may not only break up fat into its constituents, but also build it up in the tissue from its constituents, so yeast may contain a ferment which not only breaks up glucose, but also returns glucose back to glycogen to be stored in the body. On this may depend the good results reported in the use of brewers' yeast in diabetes mellitus. Brewers' yeast, according to Tournier,¹² has also an action not unlike the phagocytes, that is, a power to attract and to devour micro-organisms.

Therapeutics.—Brewers' yeast has been employed for many years as a therapeutic measure. Through the works of Hansen, Duclaux, and De Backer brewers' yeast became an important product. In a general way, it may be stated that brewers' yeast covers a wide field of application, that is, whenever a defense of the cell is required. It has proved itself useful surgically, in indolent chronic ulcers; when applied in pure form, granulation tissue is readily formed. In septic conditions, applied directly to a slough, the necrotic tissue is thrown off and then granulation follows.

In a recent brochure Prof. Doyen,¹³ of Paris, notes an almost specific action of a derivative of yeast in staphylococcic infection, comparing its action to the antitoxin of diphtheria and urging its use not only in diseases, such as furunculosis, bronchopneumonia, etc., but as a prophylactic to induce immunity. In one case under the observation of Drs. Cary and Park, of ulcerative tonsillitis, followed by abscess of cervical lymph nodes and pyemia, with metastatic abscesses, brewers' yeast in large doses (two to three ounces) hastened recovery.

Mosse,¹⁴ as far back as 1852, used brewers' yeast in the treatment of furunculosis. It was used in 1895 by Gobert.¹⁵ De Backer, in his work on ferments, speaks in laudatory terms of its use in furunculosis and carbuncles. He concludes: (1) Brewers' yeast prevents the further development and suppuration of the most rebellious furuncles and carbuncles; (2) it prevents repeated development of furuncles in persons predisposed. L. Brocq¹⁶ used brewers' yeast on himself with good results. Alfred Gordon,¹⁷ giving one dram of brewers' yeast t.i.d. to a patient with furunculosis, noted

nausea and diarrhea, but the peripheric inflammation lessened to a great extent and the central nodule of all furuncles decreased markedly in size. This author believes it has the power to check suppuration.

In view of the favorable action of brewers' yeast in furunculosis, S. Petri¹⁸ used it in dram doses twice to three times a day in two cases of confluent smallpox. No other treatment was employed. The pus dried rapidly without the formation of any pitting and there was no fever or suppuration. It seems that its use might also be indicated in other pustular forms of skin diseases, such as acne vulgaris, impetigo contagiosa, etc.*

Theodore Landau,¹⁹ of Berlin, has used brewers' yeast as a vaginal injection, using 10 to 22 Cc. in leucorrhea and vaginitis. Its action here corresponds to the law of the survival of the fittest, because the saccharomyces remain master of the ground over other micro-organisms, so that the effect is due not so much to a leucocytosis as to a phagocytic action of the yeast cell, an antagonistic bacteriotherapy. W. Albert (*Centralblatt für Gynäkologie*, Aug. 9-23, 1902) regards sterile yeast as a physiologic disinfectant for the vagina; obstinate vaginal discharges and erosions of the portio diminished at once and were completely cured after from five to six injections. Albert also uses yeast to disinfect the vagina previous to operations. It is injected and allowed to remain 12 hours before an operation.

Brewers' yeast has also proved a valuable remedy for certain internal diseases. Pen-

*Welch and Schamberg, of the Municipal Hospital for Infectious Diseases, of Philadelphia, have kindly communicated their experience with the use of brewers' yeast in the treatment of smallpox:

"We were prompted by the encouraging results which are said to have been obtained in the treatment of boils, abscesses and other pyogenic infections, to employ the remedy in the treatment of smallpox. We administered the yeast in 40 or more cases, in various types of the disease, and in the different stages. Two drams were given in milk every four hours, day and night. The yeast was well borne and was not unpalatable to the patients. We were not able, however, to observe any appreciable influence of this remedy upon the progress of the eruptions or the disease. The pustules proceeded to full maturation, and the secondary fever was in no wise modified; nor did the yeast appear to exercise any restraining influence in the prevention of the boils and subcutaneous abscesses which so commonly complicate smallpox.

"In bacteriologic investigations which we have made, we regard the pustulation in smallpox as an essential part of the variolous process, the result doubtless of the action of the agent which produces the disease. The later pyogenic complications are due to secondary infection with streptococci and other organisms. Even these latter conditions were not materially influenced by the yeast treatment."

zoldt,²⁰ in an article on the effects of carbon dioxide on digestion, states that it improves it in various directions, for the secretion of hydrochloric acid begins sooner and reaches a higher degree. The carbon dioxide also stimulates peristalsis, so that in atony and anacidity fluids containing carbon dioxide are beneficial. Carbon dioxide is one of the end products and the cause of tympanites after the ingestion of brewers' yeast; besides the effects derived from the ferments contained furthering digestion and assimilation, the carbon dioxide also exerts a beneficial and stimulating effect, so that Ross²¹ using 50 Gg. of fresh yeast, dried at a temperature of 30° C., noted a good effect in habitual constipation.

Günzburg²² has used it as remedy in enteroptosis and describes its effects as follows: Its administration is followed by meteorism, which is beneficial because it anchors the organs and does not allow them to glide hither and thither in the abdominal cavity. The tympanites, if too great, can be reduced by reduction of the yeast taken, but in this affection tympanites is, for the most part, pleasant to the patient. The pulsation of the abdominal aorta is not so disagreeable a sensation, because the inflated intestines arrange themselves between the aorta and abdominal wall.

Under the administration of yeast Günzburg noted a gain in weight and strength, and the fat polster by metabolic changes assists in again fixing or anchoring the organs. The constipation and masses of mucus disappear, so that the yeast exerts a laxative effect. Its use is contraindicated in dilation of the stomach.

So long ago as 1852 G. B. Smith²³ used *cerevisia fermentum* in the treatment of putrid sore throat, due, no doubt, to the specific effect of staphylococcus infection. Is it too much to say that it might be of value in acute articular rheumatism which of late is regarded as an attenuated toxic pyogenic infection?

In diabetes mellitus, using the word of that celebrated authority, Dr. von Noorden, the number of drugs which have been recommended in its treatment is legion—an evidence of the small benefit of any individual one—so that the most optimistic believers in materia medica, rendered cautious by oft-repeated disappointments, become skeptical when any one praises a remedy for diabetes.

We have shown that in those taking an excess of carbohydrates and producing an alimentary glycosuria that yeast is useful, so that Nobécourt²⁴ suggests that by administering yeast to diabetic patients they may

possibly take a large quantity of carbohydrate, because the yeast attacks the nascent glucose formed from the conversion of carbohydrates. It is also possible that, as alluded to, yeast has a glycogenic ferment which may change the glucose back to glycogen, to be stored in the body.

Cassaert²⁵ reported good results from brewers' yeast in three cases of diabetes mellitus. One of these cases was very grave, another was tuberculous. It was given in doses of 50 Gm. each day. The immediate effects noted were that after a few minutes the patient passed a large amount of gas which was followed by a fetid diarrhea with a considerable evacuation of gas. After a few days a tolerance was obtained and the patients felt good. The appetite returned, their strength increased, while sugar was diminished in the urine. The weight of the three patients increased 3, 5 and 8 pounds, respectively. On discontinuing the treatment a loss of weight was noted. Debouzy²⁶ used it internally in a diabetic patient, with a great decrease in glucose, from 240 grn. to 10 grn. in 24 hours. De Backer and Manders (Tournier's article) used a pure culture of yeast ferment in a case of diabetes, giving injections varying from 9 to 15 days apart. In one case (De Backer's) the glucose decreased from 82 Gm. to 45 Gm. and the urine from 3 liters to 2 liters in 24 hours. In another case (Mander's) glucose decreased from 187 Gm. to 41 Gm. and the urine from 3 liters to 1½ liters.

It is indisputable that a very large number of patients with incipient pulmonary tuberculosis are cured by a natural resistance to the infection. This is proved by the large number of cicatrized lesions discovered in the pulmonary tissues of those who die from other remote diseases, so that cases of incipient tuberculosis are amenable to treatment and offer a good hope of early recovery. Many of these patients are cured by rest, fresh air and a nutritious diet; some authorities claim results from climate, others from sanatoriums; others, as Goetsch, from the use of tuberculin in combination with the foregoing; but in every case the cure is accomplished by such means as increase in the body the normal resistance to infection.

In the nuclein of the yeast we have a substance by which the body may acquire a resistance. In 1893 Vaughan,²⁷ in a paper on immunity and cure in infectious diseases, prepared from yeast a nuclein which he claimed not only to be germicidal but also toxicidal in that it was capable of rendering inert bacterial nucleins whether present in

living or dead cells, in suspension or solution; and as a result of experimentation recommended the use of nuclein in incipient tuberculosis. In all cases he recommended that it be used early in the disease before the secondary infection.

Wilcox²⁸ and Garber²⁹ were able to verify the results obtained in early cases, Wilcox concluding that the good results were obtained for three reasons: (1) Nuclein increases the vigor of the central nervous system; (2) it has germicidal properties; (3) it results in the production of a polynuclear leucocytosis.

In a communication to the *Journal of the American Medical Association*, 1901, I urged the use of fresh brewers' yeast in large doses in cases of tuberculosis, and I herewith report a case in which its action in combating certain features of a secondary pyogenic affection occurring during the course of pulmonary tuberculosis was well marked:

Case I.—I had watched the course of a case of tuberculosis in Mr. J. P. at one of the hospitals. He had advanced pulmonary tuberculosis with formation of cavities and a very profuse expectoration, with many tubercle bacilli and staphylococci in the sputum. He had cough, was much emaciated and had night sweats, with hectic flush, and a marked rise of temperature in the evening and morning remissions. He remained in the hospital for some time and was discharged unimproved. Some time afterward, having been called in attendance, I found the patient in bed, much emaciated, and having hemoptysis. As there were no means for proper nursing at his home, he was advised to go to the German Hospital, where I attended him. He was given large doses of fresh brewers' yeast immediately, and though the patient was far advanced in the disease, an improvement was noted in (1) the night sweats; (2) chills; while the temperature curve from May 15 to May 28 was never above 99.5°. The patient, however, eventually left the hospital because we could not keep him longer, and I am informed afterward died of hemoptysis.

In this case there was an amelioration of general symptoms due to the secondary septic process under the use of brewers' yeast. Another case also illustrates its effect, not in a curative way but in the lessening of symptoms, *i. e.*, in temperature, night sweats, etc., in a case of pulmonary tuberculosis in which there was cavity formation.

Case II.—Mrs. L. D., aged twenty-two, an Italian and married. Following a confinement she coughed for several months, there being abundant expectoration in which the tubercle bacilli were found. She was anemic, emaciated, and complained of night sweats and pain in the left side. She entered the German Hospital, May 5, 1901, with a pulse of 120, and respirations 25. The left apex and upper lobe were involved in an ulcerative process, which later developed a cavity formation. She was given creosote, codliver-oil, nutritious diet. At her entrance the tuberculous process was quite active; subcrepitant rales and friction were elicited on auscultation. The tem-

perature did not become normal until the morning of May 11, and it varied from 98° to 99.5° F. at night. About this time the physical signs showed a cavity formation with rise in temperature curve. Brewers' yeast in large doses, one to two ounces, was now given, and on May 15 the temperature reached normal and remained so 11 days (May 26), when, as a result of the constant administration, a fetid diarrhea followed with a sudden rise of temperature to 102°. The yeast was discontinued, a high bowel wash was given, and the patient again returned to yeast. The symptoms of the pyogenic process, night sweats, hectic fever, etc., ceased, the patient's general condition improved, the temperature remained normal until the patient left the hospital, improved, July 27, a total of thirty days of natural temperature, and went to the country.

In the two cases cited there was an undoubted improvement in the symptoms as seen in advanced cases, and they are certainly the most hopeless ones for treatment.

Case III.—J. E., aged forty-four, stone cutter, married, entered the hospital, April 15, 1901, complaining of cough, loss of appetite and weight, and night sweats. Temperature 100°, respirations 18. The physical signs showed involvement of the apices in a fibroid condition. The sputum, which was not abundant, showed the tubercle bacilli. The treatment consisted of codliver-oil and creosote and feeding. The temperature continued at 99° and 100° for six days, when treatment with brewers' yeast, three ounces t.i.d., in milk or water was instituted. The temperature dropped to normal and so continued with only an occasional rise of 0.5° with morning remission of about the same, and the patient was discharged June 23, 1901, much improved, having had no night sweats or pyrexia for about sixty days. He gained about 10 pounds in weight.

Case IV.—Francis, aged eighteen. Had night-sweats, chills, hemoptysis, and moist purulent tuberculous process at the left apex. The sputum revealed the tubercle bacilli.

The patient was sent to the German Hospital, where brewers' yeast was given in 3-oz. doses three times a day. The temperature was reduced to normal, the night sweats ceased, the process seemed uninfluenced and the yeast was discontinued, but notwithstanding, whenever discontinued, the septic symptoms were accelerated. The patient is still under my observation, but is now in the country.

Brewers' yeast has also been employed by me in a number of cases of bronchopneumonia and with evident excellent results. In bronchitis, especially the chronic forms, and of the fetid variety, it is a remedy worthy of trial, as it increases an expectorant action in conjunction with its other properties. Regarding its use in tuberculosis, it may be said that in those who have marked gastric atonic dilation it may produce nausea, vomiting and diarrhea, but this may be overcome by lavage and bowel washes, should it occur. Commencing with ounce doses of fresh brewers' yeast and gradually increasing to three ounces t.i.d., given in beer, sugar water, or plain water, or even taken as such, brewers' yeast is well borne by the patient in the majority of cases. If

they complain of tympanites, then the dose may be diminished.

The therapy with fresh brewers' yeast is applicable only in such places where it can be obtained fresh from a brewer, and it must be obtained daily. It is, however, a cheap way of applying therapeutics, and for that reason may be given to the very poor. As obtained it is a reddish, frothy liquid, slightly acid in reaction, with the odor of beer, and of pleasant taste. To overcome the difficulties in obtaining it, there are, I believe, several efficacious derivatives on the market. De Backer and Tournier have used a pure culture of yeast hypodermically in tuberculosis, cancer and diabetes. The injection of $\frac{1}{2}$ to $\frac{3}{4}$ a syringeful for an adult, $\frac{1}{3}$ to $\frac{1}{2}$ syringeful for a child, are used intramuscularly every eight days then every fifteen days for three to four weeks until about four to six injections are given. Tournier has given reports of a favorable action observed in 20 cases of tuberculosis and three of diabetes. Because Dr. Brault³⁰ found an increased amount of glycogen in sections of malignant neoplasms, it was used in a number of cases of recurrent and inoperable malignant growths, in some of which the pain and later the growth disappeared ("Cancer of Breast," by Tournier). There are 10 such cases reported, and it is recommended in those cases.

We must then conclude that brewers' yeast, because of its ferments, nuclein, nucleic acid and phagocytic action is a remedy of value in therapeutics; its use is not confined to any one disease, but wherever an increased resistance of the organism is required. It has proved itself of value in furunculosis, carbuncles, diabetes, tuberculosis, bronchitis, bronchopneumonia, enteroptosis, habitual constipation, cancer and other affections. Used in cases of advanced tuberculosis, an improvement in symptoms indicative of secondary pyogenic infection was noted.

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ICHTHYOL IN RHEUMATISM

Dr. Geo. S. Post¹ reports two cases of rheumatism, one acute and one chronic, to illustrate the value of ichthyol. Case I was a patient aged 28, suffering with acute articular rheumatism. Both knee-joints were hot, swollen, tender and painful; they could not be moved without causing excruciating pain. The bowels were opened with a saturated solution of Epsom salt, and sodium salicylate was prescribed in 10-grain doses every 3 hours. The affected joints were painted with pure ichthyol, and covered with cotton and oiled silk. The pain, tenderness, swelling and local fever were all appreciably reduced before the constitutional treatment had time to display its effect. The ichthyol was applied 8 times at intervals of 8 hours, when it was discontinued, there being no further need for it. The author is convinced that the ichthyol was of great value. Case II was a lady aged 56. She had suffered from chronic rheumatism of the hip joints for the past 3 years, consequent upon an acute attack. After resting in one position for a time she had difficulty in changing to another, owing to pain and stiffness. Walking was accomplished by short, hitching steps. All previous efforts by a number of physicians to relieve the condition was of no avail, the symptoms remaining the same. Now a saline was prescribed in small daily doses. An ointment of ichthyol (50-per-cent.) was well rubbed in over the trochanters morning and night. Internally a mixture of ichthyol and glycerin, of each 2 drams, and peppermint water 1 oz., was taken in 20-drop doses, in water, after meals. Slight improvement was noted within ten days, and steadily till the date of the report (eight weeks after). Then the patient could walk with much less difficulty, and in pleasant weather was out of doors part of the time. She could ride in a carriage without pain. The vigorous rubbing in of the ichthyol ointment no longer caused any pain or tenderness, as at first.

¹ Therap. Gazette, XXVI, No. 9.

Progress in Materia Medica and Therapeutics

METHYLENE BLUE IN NEURALGIA

Dr. A. De Voe¹, of Seattle (Wash.), in a note on the treatment of neuralgia, has this to say: "Don't wait to try strychnine or aconitine to their full physiological limit, and don't operate for neuralgia, since all of these measures will prove needless barbarities after a small hypodermic dose of methylene-blue. One-fourth, one-eighth, or even one-tenth of a grain of Merck's medicinal methylene-blue, in watery solution, hypodermically near the seat of pain or near the spinal source of the affected nerve, is generally sufficient. Using these small doses two points of injection may sometimes be advisable at the same sitting. So administered, for local effect chiefly, the drug having a special attraction for nerve tissue, there can be little if any risk of abortifacient action. I have so used it to cure neuralgias in pregnant women, and always without harmful results of any kind. The local smarting is but brief. Methylene-blue is worthy a place in the hypodermic case of every physician who desires to treat with best success tic douloureux and other neuralgias, especially those showing a tendency to daily recurrence."

ARSEN-HEMOL

Dr. Helbich² uses arsen-hemol (hemol [hemoglobin dioxidized by zinc] containing 1 per cent. arsenous acid) in place of Fowler's solution in the treatment of psoriasis and lichen ruber. His formula is:

Arsen-hemol.....5 Gm. (75 grn.)
Powd. Ext. Licorice 1.25 Gm. (20 grn.)
Mucilage Acacia, to make50 pills

Three pills daily. Every fourth day increase the dose by 1 pill until 10 are taken daily; then decrease the same way. When the daily dose of 3 pills is again reached, discontinue for a few days, to resume as before.

POTASSIUM CHLORATE IN HABITUAL ABORTION

We often meet with instances of habitual abortion in young women which is not dependent upon an epidemic disease, on syphilis, or on lesions within the uterus. In such cases Dr. S. Remy³ has had good results from the internal use of potassium chlorate, which was first recommended by James Simpson as a remedy in diseases of the placenta but has been but little employed

up to the present time in the treatment of these affections. As soon as the patient is certain she is pregnant, he gives daily 0.2 Gm. (3 grn.) of potassium chlorate, and continues the medication during the entire period of gestation; decreasing the daily dose of the drug in the last weeks to 0.15 Gm. (2½ grn.). Not the slightest untoward effect has been observed, either on the mother or the child, from this treatment; and the author has succeeded in bringing the pregnancy to normal completion in a number of women who previously had nothing but miscarriages.

As regards the *modus operandi* of the potassium chlorate, Dr. R. believes that the nascent oxygen liberated by the drug acts on the elements of the uterine mucous membrane in the process of evolution and gives them increased vitality.

HEMOL AS A HEMATINIC IN CHILDREN

Dr. L. Fürst¹ of Berlin, has used hemol (hemoglobin deoxidized by zinc) in 15 children ranging in age from ½ to 14 years and suffering with anemia from various causes, chlorosis, and gastric ulcer with chlorosis. He finds that the remedy improves the appetite, the appearance and general condition, the composition of the blood. In four to eight weeks the number of red blood corpuscles increases on an average by 1 to 1½ million and the hemoglobin content by 25 to 32 per cent. (estimated according to Fleischl). The hemol is always well borne, even in gastric ulcer; it is best given about fifteen minutes before meals, in powders with sugar or in cocoa. The dose for children is 1 to 5 grains.

TRIKRESOL IN ALOPECIA AREATA

Dr. M. L. Heidingsfeld², of Cincinnati, has obtained good results in seven cases of alopecia areata from topical applications of trikresol.

The first patient had been previously treated for eight months with chrysarobin, iodized collodion, mercury bichloride, galvanism, pyrogallie acid, etc., but in vain, and therefore withdrew from further treatment. However, he presented himself on March 3, 1902, for the second time. The denuded areas covered a large surface of the scalp, patches of relatively large size were present over the anterior and the two lateral aspects of the scalp, and six smaller circumscribed areas were present over the posterior aspect and top of the head. The larger anterior and right lateral patch, as well as the smaller

¹ *Medical World*, XX, No. 9.

² *Therap. Monatshefte*, XVI, No. 10.

³ *Semaine médicale*, XXII, No. 39.

¹ *Deut. Med.-Ztg.*, 1902, No. 67.

² *Cincinnati Lancet-Clinic*, XLIX, No. 12.

ones, with the exception of two posterior ones, were now subjected to topical applications of trikresol, which was applied twenty-seven times, on an average of once a week, from the early part of March to the early part of September. The trikresol, in the beginning, was applied pure, by means of a cotton swab, the areas being previously cleaned from fat and oil with xylol, to insure greater and deeper penetration. The local irritation and pain attending its use was of short duration, and was allayed in a measure by the application of ice-cold compresses. Later this irritation was materially diminished by using a 50-per-cent. solution of trikresol in alcohol. Its use was attended by erythema and a slight vesicular dermatitis, which disappeared with some scabiness, usually after a week's duration. The left lateral patch was subjected to the influence of the X-ray, the surrounding areas being carefully protected from its action by means of sheets of lead and tin foil. Five exposures were made at a focal distance of seven inches, and a spark-gap of three inches (Kinraide coil, Swett and Lewis tube), of ten minutes' duration, on March 8, 15, 20, 22, and April 1. These exposures were followed by a well-marked erythema, which manifested itself on April 4 and persisted for several weeks. The two posterior patches were left untreated. After an interval of about six weeks the areas which were subjected to the action of trikresol began to show a uniform growth of fine lanugo hair, the other remained unchanged. On May 5 the remaining patches were subjected to trikresol, with the result that by July 1 the patches originally treated with trikresol were well covered with a good growth of well-developed hair, and the two former untreated patches were covered with lanugo hair. The X-ray patch remained unchanged, being perfectly smooth and absolutely devoid of hair, with the exception of a narrow peripheral border of lanugo hair over an area that was in a measure shielded from X-ray action by lead and tin foil. On Aug. 27, 1902, all the areas with the exception of the one which was subjected to X-ray action were well covered with hair. The X-ray patch on this date was still absolutely devoid of hair, although trikresol applications had been regularly made since the beginning of May.

In the remaining six cases satisfactory results were also obtained. The author now considers the treatment preferable to any other; its cleanliness; absence of pain, discoloration or disagreeable staining, and its relative simplicity, are strong points in its favor.

TURPENTINE IN PERITYPHLITIS

In the course of his researches on the use of pyogenic agents Dr. Moritz Mayer¹ discovered the value of turpentine in suppurative conditions. A case of purulent pleurisy having been favorably influenced by turpentine, the author thereupon employed the same remedy in 12 perityphlitic cases. He prescribed essence of turpentine, or, preferably, the essential oil of the Austrian pine, in 3-drop doses two to four times daily. This may be given in ether or in yolk of egg. The rectal route may be utilized when the stomach rebels. This internal

medication may be supplemented by external turpentine applications whenever a certain degree of resistance is noted in the ileocecal region. The remedy should be discontinued on the appearance of troublesome micturition. The respiratory apparatus should also be watched. The author saw bloody expectoration follow turpentine-medication in a patient with infiltrated pulmonary apices.

GLYCOSAL, AN ANTISEPTIC

Glycosal is the monosalicylic ether of glycerin, and occurs as a white powder which is soluble in about 100 parts of cold water and freely so in alcohol. After its ingestion, or its topical application as a paint in 2-per-cent. alcoholic solution, the urine gives a distinct salicylic-acid reaction. Prof. N. Sorrentino¹, of Naples, has used glycosal in *cystitis* and found that it regularly has an anti-fermentative action on the contents of the bladder, the urine becomes less turbid and does not undergo ammoniacal fermentation so quickly as before taking the drug. Of eleven cases treated exclusively with glycosal there was a relatively prompt recovery in eight. The remedy was given in daily quantities of 3 to 6 Gm. (45 to 90 grn.). Its action is described as that of salicylic acid and of salol; but it does not upset the stomach and produce ringing in the ears, and is non-toxic.

Dr. S. has used the following ointment with result in *chronic scaly eczema*:

| | |
|----------------------------|---------|
| Glycosal..... | 50 grn. |
| Alcohol, q. s. to dissolve | |
| Vaselin..... | 1 oz. |
| Adeps Lanæ..... | 1 oz. |

In *herpes tonsurans*, *pityriasis versicolor*, and *erythrasma*, the antiparasitic action of glycosal is less marked than that of some other parasiticides; but the author recommends it in cases where the disease is too extensive to permit of the employment of the latter.

IRON IN LATENT MALARIA

Riva-Rocci, in 1901, discovered that injections of the salts of iron induced typical malarial manifestations in those in whom the malarial infection seemed to be eradicated, and advanced the theory that malarial germs might persist in the latent style in the parenchyma of spleen and liver, from which the hyperemia brought about through administration of iron caused them to be again carried into the general circulation, where their presence would give rise to re-appearance of malarial symptoms. Cova and Boni² describe the cases which give

¹ *La Sem. mèd.*, XXII, No. 34.

¹ *Gazz. d. Osped.*, 1902, No. 105.

² *Medical News*, LXXXI, No. 11.

some support to this theory. Two of the patients had a history of malaria cured by quinine some months before seen. Injections of iron arsenate used to combat chlorosis caused in both a reappearance of chills and fever. In the third case, that of an anemic baby, in which no satisfactory history could be obtained, injections of iron were used, not only as a curative measure, but also in order to ascertain whether latent malaria were responsible for the child's condition. The occurrence of a typical malarial seizure after two weeks' treatment with daily iron injections, led the writers to the belief that the value of iron in malarial cases may lie not only in its power to combat the anemia which so commonly follows, but also in its serving to diagnose latent malaria, and through its effect upon spleen and liver, to dislodge the parasites from those organs and possibly from the medulla of the bones, driving them into the general circulation where alone they may be destroyed by administration of quinine. The question of secondary infection in these cases is met with fairly convincing arguments for the exclusion of this possibility.

ACTION OF IODIPIN ON THE VASCULAR SYSTEM

The influence of iodine on absorption and its specific action on the vascular system have been frequently discussed. Iodine causes a dilatation of the peripheral vessels. The utility of the drug is unfortunately hampered by numerous injurious collateral effects. This drawback often compels us to avoid iodine even in the face of urgent indications. Recently, iodipin (iodized sesame oil) has been shown to be a most efficient substitute for iodine, equally potent and free from toxicity. Dr. Richard Thausig¹ has inaugurated clinical experiments with iodipin, selecting affections which make a vascular drug-action desirable, such as asthma, arteriosclerosis, syphilitic endarteritis and chronic lead-poisoning.

The remedy was administered internally and hypodermically. The oily taste often interferes with inhibition by the mouth, and, when large doses are taken, some manifestations of iodism are apt to occur, probably as a result of rapid absorption. This absorption takes place in the small intestines, where iodipin is split into its components, iodine and sesame oil. Iodipin may be given per rectum, but the absorption is very slow and the therapeutic action often inadequate.

By far the best route is the hypodermic. For this purpose the 25-per-cent. preparation is employed. Injected with aseptic pre-

cautions, the drug produces no local reaction of any significance. The usual single dose in the author's cases was 5 drams on the average, one injection being made every fourth day. The therapeutic results were similar to those obtained by giving the alkaline iodides. Toxic manifestations were occasionally noticed, but they were mild and followed very large doses.

A most agreeable feature of the new drug is its influence on the nutrition. Many patients gain in weight while taking iodipin. This may be due to its fatty component, and contrasts favorably with the usual cachectic consequences of prolonged iodide medication.

The author finally emphasizes the beneficial action of iodipin in lead-intoxication. Probably this effect is due to the influence on the abdominal vascular system.

Iodipin, concludes the author, possesses considerable value, since it enables us to supply iodine to the diseased tissues for a long time, without provoking a specific intoxication.

THYMOL-URETHANE, AN ANTHELMINTIC

This drug is a compound of urethane and thymol-carbonic ether, and occurs as colorless crystals having but little taste and being sparingly soluble in water; decomposed by the alkaline intestinal fluid, whereby the liberated thymol, the active constituent of the compound, is enabled to exert its anthelmintic action. According to reports¹, thymol-urethane has been successfully employed as an anthelmintic.

ARSITRIOL, MARSITRIOL, AND GABIANOL

Dr. Schlagdenhaufen² has given the name "arsitriol" to calcium glycerino-arsenate, and "marsitriol" to iron glycerino-arsenate. These remedies are used as nerve tonics and reconstitutives, in doses of 1 to 2 grains.

Gabianol is a substance prepared from a natural shale. It is described as a dark-brown, oily liquid, with a greenish reflection, and as being a valuable remedy in various diseases of the lungs and throat. Drs. Blache,³ Durand-Fardel and Hastings prescribe it in capsules each containing 4 grains, 4 to 6 daily.

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¹*L'Union pharmaceut.*, XLIII, p. 269.

²*Pharm. Zeitung*, XLVII, p. 511.

³*Pharm. Centralhalle*, XLIII, p. 334.

ACETOZONE IN TYPHOID FEVER

In the August issue of the ARCHIVES we referred to the results obtained by Dr. E. Wasdin in 27 cases of typhoid fever, with the use of acetozone. Drs. I. A. Abt and E. Lackner¹ now report their experience, in 40 cases occurring in children. There were but two deaths; the one patient dying of pneumonia and pulmonary edema, the other succumbing to hyperpyrexia on the fifth day. Stupor and tympanites were almost entirely wanting in the whole series of cases. The characteristic fetor of the stools was markedly diminished, and hemorrhage occurred but twice and then in the same patient. The average duration of the febrile period in thirty-seven cases, after commencing with the acetozone medication, was thirteen and one-half days. The average duration of the illness before admittance to the hospital in thirty-seven cases was eight and one-half days; in three this could not be ascertained. The drug did not seem to act upon the heart or respiratory apparatus.

The acetozone was administered as powder, plain or mixed with jelly or raspberry syrup; but in these forms it is not palatable, and taken in milk it is objected to by most patients. The aqueous solution, to which a few drops of orange extract is added, is the most easily taken. Quantities of $\frac{1}{2}$ to 3 grains were given hourly to four-hourly, and 3 or 4 oz. every 3 or 4 hours constituted the dosage of the aqueous solution.

THYROID SERUM IN BASEDOW'S DISEASE

Prof. Moeblus² has introduced a serum obtained from sheep from which the thyroid gland has been removed. It contains $\frac{1}{2}$ per cent. of carbolic acid as a preservative. He has given 5 Gm. (75 min.) of this serum per os every other day, in a tablespoonful of wine, in cases of Basedow's disease (exophthalmic goiter), and soon observed a diminution in the size of the goiter; in two instances the thyroid gland became considerably softer. The general condition improved, the frequency of the pulse was lowered, and the tremor ceased. Untoward effects were not observed.

These favorable results prompted Dr. Schultes (*ibid.*) to try the treatment; and he claims to have cured with it a typical case of Basedow's disease with characteristic symptoms and serious mental manifestations. He administered the first day 0.5 Gm. (8 min.) of the serum 3 times daily, every day increased the dose 0.5 Gm. until 4.5 Gm. (70 min.) were being taken thrice

daily administered either in sherry wine or raspberry syrup. No other medication was employed. The good effect began to show itself in a week. Forty-nine days after the treatment was commenced, the tremor, cardiac palpitation, and other symptoms disappeared, the thyroid softened, the pulse dropped from 142 to 90, and the circumference of the neck diminished 16 inches. On discontinuing the serum both the pulse-rate and the goiter increased again, but receded when treatment was renewed—2 Gm. (30 min.) being given t.i.d.

THE VALUE OF THIOCOL

The beneficent influence of creosote and its derivatives on pulmonary tuberculosis is no longer subject to serious doubt, according to Dr. S. Drago and Dr. A. Coco.¹ The chief drawbacks of creosote are the difficulty of tolerating it in the digestive tract and its penetrating odor. The desideratum has therefore been to find a substitute free from untoward effects, and among the numerous products recommended as successors to creosote, thiocol deserves the first place.

Thiocol (guaiacol-sulphonate of potassium), a derivative of guaiacol, is a white, crystalline, odorless, slightly bitter powder, easily soluble in water.

Sirolin is a 10-per-cent. syrup of thiocol, having a pleasant taste and being free from toxic or caustic properties. A series of clinical experiments with thiocol and sirolin has testified to their value in pulmonary tuberculosis. The great advantage of these preparations is their perfect non-toxicity, which makes high dosage possible. In the case of creosote, correspondingly large doses are contra-indicated by the inevitable rebellion of the digestive organs.

All symptoms of tuberculosis are favorably influenced by thiocol: the cough relieved, night-sweats and fever diminished, expectoration facilitated. The sputum under thiocol treatment shows a notable reduction in the number of bacilli.

The daily amount of thiocol administered was from 16 grm. up to 1 dram and more; sirolin was given in teaspoonful doses four to six times daily. The duration of treatment has been one to three months, and the final result in a series of twelve cases showed seven completely cured and four improved patients. The cures were verified by inoculating guinea-pigs with the sputum.

The results may be summarized as follows: The experimental researches confirm and explain the clinical observations on thio-

¹ *Therap. Gazette*, XXVI, No. 10.

² *Klin.-therap. Woch.*, IX, No. 40.

¹ *Klin.-therap. Woch.*, IX, Nos. 31 and 32.

col. The drug influences favorably the blood-composition, and enables it to fight the enemy. Not only does the plasma show an increase of albuminous constituents, but the quantities of serum-globulin and serum-albumin are so altered that the latter is relatively increased. This fact possesses great therapeutic interest, as it has been proven that a diminution of serum-albumin accompanies many diseases which led to destruction of red blood-corpuscles. Moreover, thiocol has a considerable germicidal potency. It also brings about an increase in the number of erythrocytes and in the quantity of hemoglobin. The alkalinity of the blood is also increased. This accounts for the germicidal value of thiocol, since alkalinity and anti-bacterial action are directly correlated. Finally, an intensified phagocytosis takes place, evidenced by an increase of leucocytes as compared with polynuclear white corpuscles.

ANESTHESIN IN LARYNGEAL DISEASE

This new local anesthetic was described on page 293 of the current volume of the ARCHIVES. Dr. C. Kassel¹ states that it is the first remedy that can be inhaled for the purpose of producing anesthesia of the larynx without any danger of poisoning. He usually employs the following mixture:

Anesthesin..... 20 Gm. (5 dr.)
Menthol..... 10—20 Gm. (2½—5 dr.)
Olive Oil..... 100 Gm. (3½ fl. oz.)

The menthol is omitted if the patient does not become accustomed to its vapor when the mixture is inhaled. The anesthesia is said to continue for two to twenty-four hours, and is considered of great value in those cases of dysphagia consequent upon laryngeal ulceration where the patients ordinarily depend on a skilled laryngologist; for with anesthesin they can relieve themselves. The inhalations are carried out by means of an ordinary steam inhaler. Care must be taken to cover the face, so as to prevent the vapor of the menthol from irritating the eyes and nose.

ASPIRIN IN RHEUMATISM OF CHILDREN, AND IN PHTHISIS

Dr. Görges² reports on the use of aspirin (acetyl-salicylic acid) in various forms of rheumatism—articular, muscular, endocardial, etc. He gives 0.5 Gm. (7½ grn.) 3 or 4 times daily to children between 2 and 5 years of age, and 1 Gm. (15 grn.) to children from 6 to 10 years old. He says that although he has employed aspirin in a large number of cases and sometimes for long periods, he has observed vomiting only a

few times, and but twice did the patients complain of ringing in the ears and deafness. The author has found aspirin to be of service also in chorea: the attacks are shortened, and even severe attacks are benefited. He gives the drug five days, then stops it three days, and then resumes it.

Aspirin is recommended by Dr. D. H. Cybulski¹ in pleurisy occurring in the course of pulmonary tuberculosis, in fresh colds with fever or acute streptococcus or staphylococcus tracheitis and bronchitis supervening in cases of phthisis, and in the febrile conditions during the last stages of this disease and accompanied by chills. In the latter instance he gives 0.25 Gm. (4 grn.) every 2 hours, and 0.5 to 0.75 Gm. (8 to 12 grn.) one hour before the expected chill; in pleurisy, 0.5 Gm. several times daily, up to 3 or 4 Gm. (1 dr.) a day; and in the colds and bronchitis cases, 1 to 1.5 Gm. (15 to 23 grn.) at bed-time, in hot lemonade or red wine.

MAGNESIUM CACODYLATE

This salt of cacodylic (dimethylarsenic) acid has been introduced by Dr. Berlu-reaux² to supersede the sodium salt, on account of its containing more of the acid in its molecule—92 per cent., as against 70 per cent. in the sodium salt. It is very readily soluble in water; a syrupy solution can be made containing 45 per cent. of the chemical. A 25-per-cent. solution is rather viscid, neutral, is said to be well tolerated as a rule when administered hypodermically. However, as it sometimes causes discomfort and pain, it is suggested to commence the injection with 15 min. of a 10-per-cent. solution and gradually increase the dose until it equals 4 grains.

MORPHINE DERIVATIVES

A great deal of labor has been expended during the last few years by pharmaceutical chemists in the effort to elaborate a more satisfactory substitute for morphine. The tendency to habit formation, the narcotic effects, the depressant action, are instances of the properties which it is often desirable to exclude or modify. Of the innumerable new derivatives, the most important are codeine, heroin, dionin, and peronin; these four have been studied with the utmost detail and precision by Dr. Mayor,³ from both a clinical and an experimental standpoint. His conclusions are as follows:

Peronin is a preparation of which the cardio-depressant effects are so marked as

¹ *Therap. Monatshefte*, XVI, No. 7.

² *Berliner klin. Wochenschr.*, 1902, No. 32.

³ *Therap. der Gegenwart*, 1902, No. 9.

⁴ *Australas. Jour. Pharm.*, XVII, p. 155.

⁵ *Rev. méd. de la Suisse Rom.*; *Med. News*, LXXX, No. 2.

to exclude its use, inasmuch as its therapeutic value is not superior to that of codeine or of dionin.

Dionin and codeine, on the other hand, are drugs which represent a permanent addition to the armamentarium. Dionin is in some respects preferable to codeine. It is more soluble and used hypodermatically is painless. It does not produce the euphoria so characteristic of morphine, and, in a less degree, of codeine. Hence, there is far less danger of habit formation. The narcotic effects are also less pronounced in the case of dionin than in any of the other drugs of the group studied. Thus, as an anodyne and as a soporific, dionin is of inferior value. On the other hand, it seems to exercise a specific and selective action upon the sensory terminations in the trachea and bronchi. It controls all forms of irritative and superfluous cough; it regulates respiration; it diminishes the feeling of dyspnea. In other words, it fulfils the same indications as does codeine, but produces less of the psychical effects of that drug.

The properties of heroin place it midway between codeine, on the one hand, and morphine on the other. A powerful respiratory sedative, it produces at the same time a considerable degree of euphoria and of somnolence. It has a well-marked depressant action upon the heart and the vasomotor system.

The practitioner has thus at his command a set of alkaloids which produce a graded series of effects of a very definite character. Evidently he must select that one which answers best to the indications in any given case. At all events, he will largely discard morphine in the enormous group of respiratory diseases.

CITROPHEN THERAPEUTICALLY

Citrophen was the subject of Dr. A. Lefèvre's¹ graduation thesis at Paris. The daily dose of this medicament is given as 1 to 3 Gm. (15 to 45 grn.) for adults; 0.6 to 1 Gm. (9 to 15 grn.) for children, taken in instalments of 0.2 Gm. (3 grn.). Citrophen is but sparingly soluble in water, so that it cannot be administered in mixtures; it should be prescribed in cachets, powders, or dissolved in selters water or carbonated lemonade in which it dissolves quite easily. It is very agreeable to take, a fact which renders its administration easy in children. It is said to be rapidly absorbed by the digestive system; within 20 minutes its presence in the urine can be detected with the aid of ferric chloride—the latter produces a wine-red color. Its

therapeutic applications follow from its anti-rheumatic, analgesic, and antipyretic properties. In acute rheumatism citrophen acts like sodium salicylate, but it is often without effect where the salicylate proves efficacious; it does not produce ringing in the ears, and even in doses as large as 3 to 4 Gm. (45 to 60 grn.) it does not cause deafness, albuminuria, hematuria, gastric disturbance, or cutaneous eruptions. Its efficacy is said to be remarkable in subacute rheumatism. The most serious drawback it seems to have is, that it often provokes profuse sweating, which, while being disagreeable, is rather useful than otherwise.

EUGALLOL IN PSORIASIS

Dr. S. Jessen² considers eugallol (pyrogallol monoacetate) a valuable remedy in psoriasis. He says that with it often very old and obstinate patches that have resisted even energetic treatment with chrysarobin can be cured in a short time. Under its influence the psoriatic patches at first become stained a dark color, but soon heal without removal of the scales. The remedy is used diluted with an equal part of acetone, as a paint, one or more times, the parts being each time dusted with zinc oxide after the application.

CHLORETONE TO PREVENT POST-OPERATIVE VOMITING

Chloretone has been recommended as a preventive of post-anesthetic sickness before this. Dr. L. W. Bickle² adds his testimony to the efficacy of the drug as based on its use in 41 cases. Every case received a dose of 15 grains two hours before operation.

There have been only four failures and these in three patients. In one the patient was a youth with double hydrocele, the right containing over a gallon of fluid, distending the abdomen; the left contained 13 or 14 oz. Both times he was operated on he was slightly sick. The second was an anemic man with severe hemorrhoids, which were very vascular; so much oozing occurred that plugging was called for some twelve hours later. He vomited once. The third was a man with the left arm crushed and the humerus comminuted. No circulation or sensation was present in the forearm. Several ribs were broken; he had pneumothorax, a displaced heart, and general emphysema, and was naturally much collapsed. Respiration was too difficult to allow him to lie down. The collapse was treated with hypodermic injections of morphine. Amputation was later performed at the shoulder-joint. While on the table he vom-

¹ "Dermat Heilmittel," Würzburg, 1902.

² *Therap. Gazette*, XXVI, No. 10.

¹ *Bull. gén. de Therap.*, CXLIV, No. 11.

ited undigested food, which had been taken more than twenty-four hours previously. A curious feature in this case was that the crushed arm, which was practically dead, presented all the characteristic features of rigor mortis in the elbow, wrist, and finger joints—an exceedingly rare condition.

FORMIN AS AN INTESTINAL ANTISEPTIC

Dr. Loebisch¹ considers formin (hexamethylene-tetramine) an excellent intestinal disinfectant. The urine of a man who was taking 7.5 to 15 Gm. (2 to 4 dr.) daily for a posterior urethritis contained no indican. The degree of intestinal putrefaction present in any patient can be determined from the definite relations that exist between the sulphates preformed and the fixed ether-sulphuric acids excreted in the urine. Indican is a derivative of indole (benzopyrrole), which, like skatol (methyl-indole), is a product of the bacterial decomposition of tyrosine. The sulphuric ethers or, better, the ether sulphates, have their origin in toxic products arising from bacterial decomposition of the aromatic radicles of albumins—such as paracresol, phenol, indole, skatol, indoxyl, and skatoxyl. A large number of experiments made by the author and his assistant tend to prove that with a normal diet, the indoxylsulphuric acids excreted with the urine are considerably diminished and even suppressed when 2 Gm. (30 grn.) of formin are taken daily. Dr. L. finds that this drug is superior as an intestinal disinfectant to the substances ordinarily employed (cresol, carbolic acid, naphthol, thymol, etc.). He further states that it has the advantage of being non-toxic, and that being soluble in water it is preferable to salol and to the more recent intestinal antiseptics such as resalol and aspirin.

MEDICAL TREATMENT OF GALL-STONES

Dr. S. Taylor² states his views as to the medicinal treatment of cholelithiasis as follows:—Movements and violent exercise are to be forbidden. Even prolonged manipulation by the medical attendant is to be deprecated. The writer has known in a goodly number of cases biliary colic to occur on the night after digital examination of the region of the gall-bladder. Kneading of the belly wall over the gall-bladder, with a view of dislodging the calculi, is permissible only if the dimensions and contour of the calculi and the amount of chronic distension existing in the duct passages are known with reasonable certainty; an angular or pointed stone may easily be forced through an ulcer-

ated membrane into the peritoneal cavity. When called to a patient suffering from biliary colic the first point is to relieve the pain. Give morphine, preferably subcutaneously. Next we must facilitate the passage of the calculi or if possible assist in their dissolution. Olive oil has been recommended, but it often disappoints. Half-ounce doses may be given hourly per os; and it may be administered per rectum, a pint warmed to about 105° F. The writer has found simple enemata of warm water, or the enema of turpentine, just as efficacious. *Ichthylol* has been highly recommended, chiefly on the ground that the large amount of sulphur it contains acts as a solvent of the stones. It should be given in long-continued and increasing doses. *Sodium salicylate* is praised by some physicians, chiefly owing to its cholagogue properties. The author has seen more benefit accrue from the administration of *glycerin*. One-half to one-ounce doses may be given during the period when the colic is the most pronounced symptom, that is, when a calculus is trying to force its way into the duodenum. The glycerin may be continued with advantage in smaller doses (1 dr.) during the intervals between the attacks of colic; the author believes it has great value as a prophylactic.

METHYLENE BLUE IN METRITIS

In the treatment of chronic metritis the opinions of gynecologists differ widely. Dr. Ch. Sueur¹ in his graduation thesis reviews all the methods in vogue until now, and gives the preference to methylene blue medicinally pure. The latter has marked bactericidal and analgesic properties, and acts besides as a vaso-constrictor and reliever of congestion. Its use permits of the patients following their usual occupations. For intrauterine applications the author rolls some absorbent cotton around a Playfair sound, dips it in a bottle holding vaselin oil, then impregnates it with methylene blue (medicinal) powder, and introduces it into the uterus in the manner of a swab. Sometimes pain is produced, not by the drug but by the swabbing; it soon ceases, however.

In treating the cervix the same procedure is employed. A few moments after the applications the excess of methylene blue should be removed by a cotton tampon. Finally, a few tufts of plain gauze or of iodoform gauze are packed into the vagina. According to Dr. S.'s experience, methylene blue is less efficacious in metritis of gonococcic origin than in ordinary metritis; and lesions of the adnexa are decidedly improved.

¹ *Bull. gén. de Therap.*, CXLIV, No. 1.

² *Therap. Gazette*, XXVI, No. 10.

¹ *Bull. gén. de Therap.*, CXLIV, No. 12.

AMYLOFORM AS A VULNERARY

Dr. A. Gerlach¹ advocates the use of amyloform (a compound of starch with formaldehyde in place of iodoform; he has used it during the past two years to the entire exclusion of the latter, in fresh and neglected wounds, ulcers of the leg, excoriations, intertrigo, felons, carbuncles, osteomyelitis, tuberculous ulcerations, etc. He usually employs the pure powder. This occasions slight burning in sensitive patients, which, however, disappears soon. The chief features of its action are mentioned, that it hastens granulation, diminishes secretion, and is, as a rule, non-irritating. Its freedom from odor and toxic effect is also pointed out.

BROMIPIN AS A NERVE SEDATIVE

Quite a number of clinicians have credited bromipin (brominized sesame oil) with several important advantages over the alkali bromides—freedom from untoward effect on the digestive, cutaneous, and circulatory systems; more pronounced and persistent in therapeutic action; enormous quantities can be given if necessary; etc. Dr. J. Kejzlar² now reports that he has found bromipin an excellent sedative in cases of nervous palpitation of the heart, hysterical or neurasthenic excitement or fear, nervous insomnia, vertigo, and similar nervous conditions. A teaspoonful ordinarily sufficed to bring relief. In two cases of infantile eclampsia half a teaspoonful in warm milk had the desired effect. A case of agoraphobia (fear of places) in a woman who for years had suffered with nervous vertigo, is described by the author at some length. She could not cross a bridge, walk over fields and the like without becoming seized with violent fear and vertigo. She was given a teaspoonful two hours before the intended walks morning and afternoon. After three days' treatment she could undertake quite a walk unassisted and without any fear, and the improvement continued without a relapse up to the date of the author's report—some two months later.

PURGATIN

This new laxative was alluded to in the January number of the current volume of the ARCHIVES. It is chemically known as anthrapurpurin diacetate, and occurs as a yellowish-brown powder, without odor or taste. Dr. K. v. Hösslin³ recommends it as a mild and agreeable laxative free from untoward action. He gives its wafers in doses of 1.5 to 2 Gm. (23 to 30 grn.), preferably

at bed-time. It usually on an average requires about thirteen hours to act, sometimes even twenty-four, and produce copious soft, (not liquid) stools. The patients should be informed that it may take as long as twenty-four hours to manifest its action, and that the urine will be colored red.

METHOD OF USING CHLORAL IN ECLAMPSIA

The use of chloral is very generally regarded as the basis of the medicinal treatment of eclampsia; but the drug should always be administered in a rational manner and in sufficient doses. Now, according to the experience of Dr. Comandeur¹, accoucheur to the hospitals of Lyons, the rectal way is defective: it does not insure the absorption of the chloral. In fact, many patients cannot retain the enema sufficiently long; and in other cases the rectum often becomes intolerant, so that it is difficult to give more than five or six injections. He prefers administering the chloral by the mouth. First he washes out the stomach, so as to subdue the gastric irritability; then he dissolves the drug in a sufficiency of water (about 4 oz. for every 15 grn.). Thus given, the chloral is said to be well borne and completely absorbed, even when large doses are employed. The author has thus given as much as 14 Gm. (3½ dr.) in fourteen hours without the least accident. In four cases treated with these heroic doses from the onset, the pregnancy took its normal course, which is very exceptional in eclampsia.

HYPNOPYRINE

This substance has been defined as "a chlorine derivative of quinine," but has since been stated² to be in reality a mechanical mixture. It has a bitter taste, and is soluble in about 8 parts of water, freely soluble in alcohol and in acids, and insoluble in ether or chloroform. Good results have been reported from its use as an anodyne in migraine, neuralgia, and rheumatism. The dose is 4 grains 3 or 4 times daily, in cachets or dissolved in syrup.

SUBCONJUNCTIVAL INJECTIONS OF SODIUM CINNAMATE

Prompted by the good results obtained by Prof. E. Pflüger of Bern, in eye disease from the use of sodium cinnamate, Dr. A. K. Letzenius³ has experimented with this drug at the St. Petersburg Eye Infirmary in various kinds of keratitis (hepatic, traumatic, parenchymatous, etc.), in corneal ulcers, iritis, iridochoroiditis, iridocyclitis.

¹ *Therap. Monatshefte*, XVI, No. 10.

² *Klin.-therap. Wochenschr.*, IX, No. 39.

³ *Münch. med. Wochenschr.*, 1902, No. 32.

¹ *Semaine médicale*, XXII, No. 40.

² *Repert de Pharm.*, XIV, p. 303.

³ *Semaine médicale*, XXII, No. 38.

scleritis and episcleritis. He first insures asepsis and insensibility of the eye (by means of cocaine), then injects under the conjunctiva not more than 8 minims of a 1-per-cent. solution, using a Pravaz syringe. The injections are scarcely painful, and may thus be repeated every other day or even daily, without giving rise to any secondary symptoms save a slight degree of hyperemia. In all the affections named, the injections are said to have had a very marked effect on the pains; and as for their influence on the disease itself, it was pronounced in the corneal affections, while in lesions of the iris and the choroid it was less perceptible, and in cases of suppuration the injections were more annoying than useful.

AIROL IN THE TREATMENT OF RECENT WOUNDS

Prof. N. Senn¹ contributes an interesting special article on Prof. Nicoladini's clinic at Gratz, Austria. Chloroform and the A. C. E. mixture are used as anesthetics. Silk has almost entirely taken the place of catgut, and gloves have been abandoned. Hand disinfection consists of thorough scrubbing with water and marble soap, followed by alcohol and sublimate solution. Recent wounds, when no drainage is required, are covered with Bruns' aïrol paste, which consists of the following:

| | |
|--------------------------|---------------|
| Aïrol..... | } equal parts |
| Bolus Alba (Kaolin)..... | |
| Glycerin..... | |

If the paste is too stiff, a little more glycerin is added; if too thin, more kaolin. The yellow paste becomes firm in a short time, and is easily washed away with warm water. It is claimed that this paste is a means of preventing stitch abscesses.*

BLOOD-SERUM IN SCARLATINA

Dr. C. S. Engel², of Berlin, has used normal human blood-serum subcutaneously in a boy of six years suffering from scarlatina complicated with diphtheria and albuminuria, and with a temperature above 40° C. (104° F.). Despite the injections of antidiphtheritic serum the condition did not improve, and the grave symptoms (dyspnea, cyanosis, feeble pulse, etc.), pointed to a fatal termination. It was now that the author, in despair, decided to inject 8 Cc. (2 fl. dr.) of freshly drawn serum obtained from a man in good health. This injection was not slow in producing improvement, and the patient eventually recovered completely.

* Another formula for Bruns' pastè reads as follows:—Aïrol, Mucilage Acacia, and Glycerin, of each 1 part; Kaolin, 2 parts or enough to make a soft paste.

¹ *American Medicine*, IV, No. 15.

² *Semaine médicale*, XXII, No. 38.

In view of his experience, Dr. E. believes that injections of normal blood-serum should be tried in all grave cases of scarlatina or of other infectious disease, and that considerably more can be injected than he used in his small patient, without compunction. The serum should be freshly drawn as wanted.

PHENOLPHTALEIN AS A PURGATIVE

At a recent meeting of the British Medical Association Prof. Tunncliffe¹ pointed out that in addition to the other properties of synthetic coal-tar products, some of them have a purgative action. He has used phenolphthalein upwards of a thousand times for its aperient qualities, and with excellent results. His method of administration is by tablets, varying from 2½ grains to 15 grains. He administers the former to a child of about two years old, while five grains will, as a rule, purge an adult. As phenolphthalein is excreted by the intestines and not by the kidneys, it may safely be used in renal disease.

ANTIDIPHtheritic SERUM IN ERYSIPELAS

Dr. G. K. Chapiro² reports a case of traumatic erysipelas cured by two hypodermic injections of 10 Cc. (2½ dr.) of antidiphtheritic serum after ointments and internal treatment had had no effect. Improvement quickly set in and continued uninterruptedly until complete recovery. Another Russian physician, Dr. A. A. Tzvietaiev, has used antidiphtheritic serum in two cases of erysipelas, and with success.

IODYLOFORM AND ANTIGERMIN

Iodyloform is described by Dr. P. Sperling³, of Berlin, as a compound of iodine with an indifferent gelatinous substance, and, like iodoform, to exert its bactericidal and stimulating action on wounds through the liberation of its iodine. It occurs as a yellowish-brown, odorless powder which is insoluble in water, alcohol, or ether. From experiments made on animals in the laboratory of Dr. Aufrecht, the author concludes that the product is non-toxic; and he recommends it for use in cases of infected wounds, abscesses, and sores of all kinds.

Antigermin is a disinfectant said to be a compound of copper with an organic acid. It occurs as an odorless, viscid, homogeneous mass, of greenish-yellow color. On stirring it with a little boiling water, and then adding a larger volume of hot water.

¹ *New York Med. Jour.*, LXXVI, No. 12.

² *Semaine médicale*, XXII, No. 40.

³ *Pharm. Centralhalle*, XLIII, p. 334.

a uniform mixture is obtained; for complete solution 200 parts are required. According to Dr. Weisenberg¹, antigermin strongly hinders decomposition and exhibits marked bactericidal power.

TREATMENT OF IVY POISONING

Dr. H. G. Klotz² strongly advocates the following treatment: Mix 1 part of ichthyol with 1 to 3 parts of water and apply this on the affected area and for the space of an inch beyond by means of a tuft of absorbent cotton wound around a toothpick. The paint rapidly dries, forming a thin elastic film. Glycerin must not be added, since it prevents drying. The affected parts should first be washed with soap and water, or, if an ointment has previously been applied it should be wiped off with benzin. Small vesicles may be left undisturbed, but larger ones must be opened by cutting off the top with curved scissors. Large blebs should be laid open and the epidermal cover removed as in the treatment of burns before the ichthyol is applied. Such moist denuded surfaces may be covered by a thin layer of absorbent cotton. Where the swelling is very severe, pads of absorbent cotton, moistened with 1- to 2-per-cent. solutions of ichthyol, may be kept on during the first day; but ordinarily no treatment is necessary other than renewed painting with the 25- to 50-per-cent. solutions every four to eight hours, according to the symptoms, without removing the remains of the former applications. The successive layers of ichthyol form a skin which peels off after a few days, leaving a more or less healthy surface. If desired, the ichthyol may be washed off with soap and water at any time.

Several other authors (*ibid.*) contribute the following formulas for a topical application:

Ichthyol.....45 grn.
Lead Iodide.....45 grn.
Ammonium Chloride.....10 grn.
Petrolatum, to make.....1 oz.

Externally!

Sodium Sulphite.....1 dr.
Glycerin.....4 dr.
Camphor Water, to make.....4 oz.

Externally!

ARGYROL IN ACUTE GONORRHEA

Dr. G. K. Swinburne³ has used this new silver-albumin compound both in dispensary and in private practice. It was originally known as silver-vitellin. It occurs as hygroscopic, dark-brown scales, very freely soluble in water, and containing about

30 per cent. of silver (like ichthargan.) Its solutions are said to keep quite well, and to be non-irritating. It is used by injection in 1 to 5-per-cent. solutions; for irrigation, in 1:2000 to 1:500 strengths. The author sums up his experience as follows: Argyrol has decided gonococcicidal properties; it reduces inflammation, and can be used safely in almost any strength and at any stage of the disease; unpleasant symptoms due to the drug have not been observed.

ULMAREN, A TOPICAL ANTIRHEUMATIC

Ulmaren is described as a mixture of the salicylic-acid esters of the higher aliphatic alcohols, containing 75 per cent. of salicylic acid. It appears on the market as a pale yellowish-red, heavy, neutral or faintly acid liquid, of a weak, pleasant odor, and a burning taste. It is almost insoluble in water, but soluble in alcohol, ether, or chloroform. Ulmaren has been employed topically by Drs. Bardet and Chevalier¹ in articular rheumatism and similar affections. It is used like methyl salicylate or oil of wintergreen, by being painted on over the affected part usually in quantities of from 1 to 3 drams, occasionally 4 drams, per day. It is said to be quite rapidly absorbed.

DIABETES TREATMENT

Prof. H. Eichhorst², of Zurich, contributes an able essay on this subject. He considers proper dieting of the greatest importance, and has little faith in drugs. The diet should consist of fat and proteid. Saccharin is an excellent substitute for sugar as a sweetener, and may be given with impunity for years, it is maintained, while dulcin (sucrol) is more liable to have disagreeable after-effects. The author has not as yet found a perfect substitute for bread; those which have been tried either become repulsive to the taste in time, or they are too rich in carbohydrate. He prefers Graham bread, if the condition permits of bread at all. The patients should take copious meals, to make up for the loss in flesh that goes with the disease. Forbidden articles of diet should be withdrawn gradually, not suddenly. If the urine remains free from sugar for several weeks a little bread—say about 1 oz.—may be permitted, and the amount increased by about $\frac{1}{4}$ oz. until say 3 oz. is reached, which is ordinarily enough to get along with. However, as soon as sugar reappears in the urine the intake of bread must be diminished or wholly withdrawn again.

¹ Pharm. Zeitung, XLVII, p. 511.

² New York Med. Jour., LXXVI, No. 8.

³ Medical Record, LX.

¹ Pharm. Centralhalle, XLIII, p. 403.

² Therap. Monatshefte, XVI, No. 9.

Aside from the diabetic régime, attention should be paid to clothing, cleanliness, and exercise. It is known that diabetics are very sensitive to changes in temperature and the weather, so that it is important to advise wearing suitable underwear even in summer. Finally, all mental excitement should be avoided.

ICHTHARGAN INTRAVENOUSLY IN SEPTIC DISEASES

Dr. Eugene Bass,¹ of Gôrlitz, has used ichthargan (ichthyol-silver) intravenously in three cases of purpura and two cases of glanders in horses. In each instance 50 Gm. (1½ oz.) of a 1-per-cent. sterilized solution were injected daily for four days. The very first injection produced good results, the dyspnea being greatly relieved; and the appetite, which had been altogether wanting, was rapidly restored. The injections were also found to be entirely harmless, and the results demonstrated to the author that ichthargan is far more powerfully bactericidal than is colloidal silver, and that the remedy is capable of affording very satisfactory results in such infectious diseases as purpura and glanders.

UROTROPIN IN BACILLURIA AND CYSTITIS OF TYPHOID FEVER

Dr. H. E. J. Biss² reports his observations in 311 cases of typhoid fever treated at the Grove Fever Hospital, London. In this series 31 instances of bacilluria or cystitis were noted, and of these 13 were regarded as cases of cystitis and 18 as of bacilluria. Many cases suffered from retention of urine, but it did not afterwards develop cystitis or bacilluria; a few such did, and probably more would have, had not measures (catheterization, etc.) been taken for the relief of the retention. For practical purposes, the author regards all cases of bacilluria and cystitis during the course of typhoid fever as infectious and treats them accordingly. For this purpose he recommends urotropin (hexamethylene-tetramine), giving it mostly in 5 to 10 grains 3 or 4 times daily, at equal intervals, well diluted. Sometimes he has given as much as 20 grains 3 times a day, or even every 4 hours, the aim being to keep the urine always in an aseptic state. The administration should be begun as early as possible, without waiting to diagnose the bacillus, and continued for a considerable period after the cessation of the condition, for unless the antiseptic influence be kept up long enough after the bacilli have apparently

ceased to multiply, a relapse is almost sure to take place.

As for by-effects of the medication, irritation of the bladder and urethra and slight hematuria were observed twice in the 311 cases, but soon passed away after discontinuing the drug. Greater dilution has sometimes served to obviate these symptoms. In view of his experience, the author has now adopted the principle to give urotropin (hexamethylene-tetramine) as a routine measure throughout the course of all cases of typhoid fever; he administers 5 grains every 8 hours on alternate days. It is too early as yet to speak of the result; but if one can by this means keep the urine free of the specific bacillus it will enormously reduce if not entirely obviate the danger of infection to the nurses and others in attendance on the disease.

ARSENIC IODIDE IN BRONCHITIS OF CHILDREN

Dr. Saint Philippe¹ considers arsenic iodide the best remedy to employ in that form of infectious bronchitis which occurs in scrofulous children after grippe, measles, or whooping-cough. When taken with food it is said to be well-nigh tasteless and easily digested, and well borne. The following formula is used:

Arsenic Iodide.... 0.3 Gm. (5 grn.)
Distilled Water... 30. Gm. (1 fl. oz.)

Dissolve without the aid of heat.

Five drops of this solution are given in a glassful of milk with each meal, the dose being increased by 1 drop morning and evening until 15 or even 20 drops are being taken as a dose. The maximum dose is given for about a month, then gradually reduced to 5 drops, and this quantity is continued for a week, and then again increased as before.

GALLOGEN AND GLUTANNOL, INTESTINAL ASTRINGENTS

Another intestinal astringent has been discovered in the substance known for a long time chemically as ellagic acid, but recently rechristened "gallogen." It is described² as a yellowish, odorless and tasteless powder, which is insoluble in water and acid or neutral liquids, but soluble in alkaline fluids. The doses assigned to it are 15 grains 3 to 5 times daily; for children, 5 to 10 grains.

*Glutannol*³ is stated to be a compound of vegetable fibrin and tannic acid; insoluble in the gastric juice but soluble in the intestinal fluids, like tannalbin. The dose is 15 to 30 grains; children receive 5 to 10 grains, as powder or mucilaginous mixture.

¹ *Deut. Thierärztl. Wochenschr.*, x, No. 26.

² *Edinburgh Med. Journal*, xii, No. 4.

¹ *Jour. des Praticiens*, xvi, No. 16.

² *Pharm. Zeitung*, XLVII, p. 580.

³ *Pharm. Zeitung*, XLVII, p. 511.

MERCK'S ARCHIVES

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FOR THE GENERAL PRACTITIONER

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NOVEMBER, 1902

EDITOR'S NOTES

Treatment of Coal-Gas Poisoning

WE wish to call the attention of our readers to a little remedy in coal-gas asphyxia that has proved very efficient, but with which, we fear, not many are familiar. We refer to the administration of hydrogen peroxide (Aqua Hydrogenii Dioxidi U.S.P.; H_2O_2) per rectum and per os. Per rectum it is given in full strength; per os it is diluted with an equal volume of water. A piece of ice inserted into the rectum is a great adjuvant, as it has quite a remarkable effect in restoring consciousness. The dose per rectum is about 2 ounces; per mouth about 1 ounce; and it may be frequently repeated. The usefulness of the treatment depends upon the absorption of oxygen from the hydrogen peroxide into the blood-current.

* *

Physiological Research and Clinical Experience

CONSISTENTLY and persistently we have been teaching in the columns of the ARCHIVES that the proper study of man is man. Laboratory research and experiments on animals, while useful, are of secondary importance, and unfortunately are not infrequently misleading. It is pleasant to see that these ideas are gradually beginning to be shared by scientific men of prominence, who formerly held different views. Some very striking passages expressing these views are contained in an article by Sir William Mitchell Banks, M.D., F.R.C.S., LL.D., surgeon to the Liverpool Royal In-

firmary. The article deals with the subject of anesthetics, and the addition to the knowledge of anesthesia which has been gained by experiments on animals.

Dr. Banks says:

No one for a moment will consider me as holding in contempt either experiments or commissions as such, and what I say I say with regret, but my firm conviction is that neither of them has hitherto been of the least avail in aiding us in our search for the best anesthetic or for the best method of using it. There is no possible comparison between a healthy dog or cat or any other animal, and a diseased human being. They are not in the least under the same conditions, and experiments upon them are therefore useless. Take on one side a healthy retriever with its heart and arteries all sound, and without knowledge of what is going to happen to it, consequently without the least fear or anxiety. Take, on the other hand, a middle-aged, somewhat corpulent woman with flabby heart and somewhat inelastic arteries. Suppose her to be the victim of some cancerous disease the knowledge of which has worn her out with anxiety and distress, and then let her pass a sleepless night before the operation, going over and over in imagination all the terrible process and making sure that she will die under the anesthetic. Or take your drunken, whiskey-sodden dock-laborer, with tissues so steeped in drink that one is almost tempted to believe in the possibility of spontaneous combustion, with cirrhotic liver, fatty heart, and albuminous urine. I cannot see any parallel whatever between the healthy canine animal and the diseased human animal, nor can I see how experiment upon the former will help us with the case of the latter. It is impossible.

Fearing that the anti-vivisectionists may try to make capital out of his words, he hastens to add that he trusts that no lying anti-vivisectionists will take hold of his words and twist them to suit their own ends, as is their wont. For although he honestly cannot see where experiments upon animals have given us direct aid in our quest after securing safety for human beings, he is very glad that they have been done. Unless it had been so we should always have remained uneasy under the fear that perchance we might have lost something of value from this source, seeing how much has been learned from it in other conditions. Moreover, the most virulent anti-vivisectionist cannot complain of any cruelty here, seeing that the animals used have simply slept themselves painlessly into extinction.

* *

The Physical Basis of Criminality and Degeneracy

WHEN the discovery was made that in many instances criminals are not criminals just because they *want* to be, but because they can't help it; that is to say, that many criminals carry with them a *physical* defect in their constitution or brain tissue which prevents their full moral or intellectual development, and hinders them from distinguishing between right and wrong, a

very important addition was made to human knowledge—an addition which very slowly but nevertheless surely is working a revolution in our treatment of criminals. Many thinkers express the belief that the time is not very far distant when criminals will be regarded merely as patients. We have physical patients in the hospitals, mental patients in the lunatic asylums, and moral patients, called criminals, who are now in prisons, but who will then be in reformatories, where high moral teachers will use their skill in correcting the moral strabismus of their wards.

In this direction, Lombroso has done more than any other man. Some of his painstaking investigations are very valuable. But few people are free from the danger of running into extremes when they have once chosen a hobby for life; and while not underestimating the great service of Lombroso to science and humanity, we are constrained to say that he has now gone to such extremes as to become ridiculous. The vision of Lombroso and his followers has become so distorted that they see criminals and degenerates in about three-quarters of the human race; in every physical deviation, real or imaginary, from the perfect human figure, they see "stigmata of degeneracy"; and people who are moving the world and who are ordinarily considered great, are by them, without much ceremony, labelled "degenerate." We all know what Max Nordau—otherwise a remarkably level-headed man—has done in this line in his book "Degeneration."

At the reception given Prof. Lombroso in Paris by Prof. Pozzi, the former delivered himself, in a lecture, of some opinions regarding the rulers of Europe and other notable personages. He paid his compliments to Kaiser Wilhelm, King Edward, the Czar of Russia, King Alfonso, the Sultan of Turkey, Prince Ferdinand of Bulgaria, etc. They were all pronounced mentally unsound, degenerates or criminals. Both the Kaiser and the Sultan were declared irresponsible, incorrigible criminals. If born of low rank the Sultan would have probably turned out a bank-thief; while the Kaiser would have frequently gotten in bar-room fights, etc., and would be a frequent guest in the jails. While we perhaps agree with Lombroso's estimate of the Sultan, we think that in his opinion about the Kaiser he is entirely wrong. It seems to us that he utterly misunderstands the character of the Kaiser, and it shows the danger of judging a man's character by the size and location of bumps on his head, or by shape and size of his ears and nose. About

the Russian Czar he had the following to say: "The ruler of Russia is a lunatic; he is not criminally inclined, but he is an innocent, melancholy idiot, the softest tool in the hands of flatterers." This conclusion was based on an examination in the presence of the audience of the bumps on a plaster cast of the Czar's head, made by a French sculptor who was to execute a bust. About King Edward he said that his bumps showed general degeneracy, inability to grasp abstract propositions, and a mediocre mind, "rebellious" to all philosophy. Joseph Chamberlain, Cecil Rhodes, Rudyard Kipling were also, among others, pronounced mentally unsound.

It is curious to relate that recently some criminologists declared that an examination of Lombroso showed that he himself possessed the "stigmata of degeneracy." And so it goes. If one is anxious to find physical signs of degeneracy or criminality, he will find them in Apollo of Belvedere and in Venus of Milo. But those who are not hobbyists will be very careful not to declare a man a congenital criminal or degenerate simply because there is a slight deviation in his physical make-up from the perfect norm, or because he has an imperfectly developed antitragus.

The Lombrosian school of criminologists and the tomfooleries of which they are guilty are beautifully satirized in Valdés' novel, "Origen del Pensamiento." The novel is delightful in the original Spanish, and whoever can should read it in that language. An abridged translation of it appeared some years ago in the *Cosmopolitan*, under the title "The Origin of Thought."

* *

FORTUNATE is he who has succeeded in discovering a new method of treatment or a new remedy. But he who tried a drug carefully and found it wanting, has not labored in vain, either. He saves other investigators a lot of useless labor, and, as Sir Banks says, it makes us feel comfortable in our minds in the knowledge that one path of information has been looked into, has been found wanting, and may be walled off.

* *

If the bromides are used in epilepsy, it is best to use the combined bromides of potassium, sodium, and ammonium; the bromides of calcium and strontium may be added with advantage. And the addition of 10 or 15 drops of tincture of digitalis to each dose makes the treatment more efficacious. Instead of adonis, Bechtereff uses an infusion of adonis vernalis.

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

Maximum Doses of Sodium Cinnamate and Copper Phosphate

Dr. R. N. M. desires to be informed as to the maximum doses of sodium cinnamate and copper phosphate.

For *intravenous* injections the maximum dose of sodium cinnamate may fairly be assumed to be in the neighborhood of $\frac{1}{2}$ grn.; for Dr. Landerer, the introducer of the treatment of pulmonary tuberculosis by means of this medicament, says that without positive indications, the dose should never exceed 25 milligrams ($\frac{5}{12}$ grn.). The temperature serves as a criterion to the dosage; if a rise makes its appearance after an injection, it is a sign that the dose was too large. In *gluteal* injections the doses used are somewhat larger; so that 1 grn. would represent the average maximum dose.

On copper phosphate very little has appeared in medical literature. No definite statements regarding the quantity that may be safely given. The ordinary range of the dose is from $\frac{1}{8}$ to $\frac{1}{2}$ grn. several times daily; the maximum dose is probably about 1 grn.

Effervescence Produced by Potassium Acetate and Potassium Citrate with Spt. Nitrous Ether

Dr. W. B. J. writes as follows: When to a solution of potassium citrate or potassium acetate a quantity of spirit of nitrous ether (sweet spirit of niter) is added, a brisk effervescence occurs with some lots of niter, while with other lots none at all occurs. What is the reaction, and why does it not occur with every lot of spirit of nitrous ether?

The effervescence ensuing when spirit of nitrous ether is added to a solution of potassium acetate, has been discussed in pharmaceutical literature for years, and various explanations have been offered. Prof. Scoville believes that nitrous acid converts acetates into carbon monoxide and other gases; but Prof. Ruddiman considers this opinion erroneous, because, he says, as much effervescence results when spirit of nitrous ether is added to a strong solution of Rochelle salt, sodium chloride, or potassium nitrate. In other quarters it has been suggested that the potassium acetate or other salt throws the ethyl nitrite out of

solution in a mixture of alcohol and water, and that the volatilization of the ethyl nitrite is the cause of the effervescence. We would say that both potassium acetate and potassium citrate sometimes contain carbonates or bicarbonates. In this case, any acid in the sweet-spirit of niter would cause effervescence. As is known, spirit of nitrous ether is neutral in reaction when freshly made; but on keeping, particularly if exposed to light and air, it quickly becomes acid—the older the preparation, the more free acid will it contain. This will explain why some lots of the niter behave differently than others. As a means of preventing the acidification of this spirit, it has been suggested to keep a few crystals of potassium bicarbonate in the bottle.

Picric Acid in Burns

Dr. A. O. asks (1) whether solution of picric acid is really so useful in burns of the first or second degree as has been maintained; and (2) what is the composition of Burnham's soluble iodine.

Picric acid has been warmly recommended by a number of eminent clinicians in various parts of the globe. P. Thiery, of Paris, was one of the first to advocate this treatment (see *Gaz. des Hôpitaux*, 1896, Nos. 8 and 25); and the same year other reports extolling its efficacy were published by G. Papazoglou (Graduation Thesis, Paris), E. Darbouet (*Jour. de Med.*, July 25), D'Arcy-Power (*Brit. Med. Jour.*, No. 1863), P. Szezypiorski (*Gaz. des Hôpitaux*, No. 95), and Beauxis-Lagrange (*Gaz. hebdom. de Med.*, No. 91). Since then picric acid has been mentioned off and on in medical literature as a useful agent in the treatment of burns. Prof. H. A. Hare, in the latest (1902) edition of his "Practical Therapeutics," says: "By far the best dressing [in burns] is lint wrung out of a mixture of picric acid;" and the formula of the mixture is given in another part of the volume, as follows:

| | |
|----------------------|------------|
| Picric Acid..... | 75 grn. |
| Alcohol..... | 2½ fl. oz. |
| Distilled Water..... | 1 qt. |

After the burn is cleansed of dirt and charred clothing, strips of sterilized gauze are soaked in this solution and applied to the part. Over this is placed a pad of dry absorbent cotton, which is fastened by a light bandage. The dressing rapidly dries and may be left in place for several days. It is then moistened with the solution so as to soften it, is removed, and then a fresh dressing is applied for a week. All blisters should be pricked. This dressing relieves pain, stops suppuration, and leaves a smooth cicatrix. Others have used the acid in $\frac{1}{2}$ -

per-cent. aqueous solution, applied on compresses. Toxic effects are said not to be produced.

While this treatment is undoubtedly efficacious, it is perhaps not the ideal method; for it stains the clothes and discolors the hands of the medical attendant. However, according to Prieur (*Repert. de Pharm.*, 1897, p. 217), the stains readily disappear on rubbing them with a paste made with lithium carbonate and sufficient water; others have suggested the use of alcohol.

Regarding Burnham's soluble iodine, we have seen no definite statements concerning its nature and composition either in medical or in chemical literature.

Aborting a Venereal Bubo

Dr. A. I. C. asks for a good treatment for aborting a venereal bubo or preventing its suppurating.

The following ointment has been used successfully in aborting all forms of venereal bubo:

| | |
|--------------------------|-------|
| Mercurial Ointment..... | 2 dr. |
| Belladonna Ointment..... | 2 dr. |
| Ichthyol..... | 2 dr. |
| Lanum | 2 dr. |

If the bubo be seen early, no heat or redness being present, a piece of surgical lint spread with the ointment is applied directly to the swollen gland; over this is placed a piece of oiled silk of the same size. A large pad of cotton is next applied, and firm continuous pressure is obtained by the application of a wide spica-of-the-groin bandage, two bandages being employed. This treatment is applied every other day until, in cases in which it acts successfully, entire resolution of the bubo is accomplished—usually a period of ten days to two weeks.

Another ointment for similar treatment is the following:

| | |
|------------------------|-------|
| Mercurial Plaster..... | 4 dr. |
| Lead Plaster..... | 4 dr. |
| Oil Turpentine..... | 1 dr. |
| Ichthyol | 2 dr. |

The following, used as an injection, has been very effectual in preventing suppuration:

| | |
|-----------------------|---------|
| Mercury Benzoate..... | 5 grn. |
| Sodium Chloride..... | 2½ grn. |
| Water | 1 oz. |

Percentage Solutions of Carbolic Acid

Dr. E. E. A. requests directions for preparing solutions of carbolic acid of various strengths.

Percentage solutions are based on a definite number of parts by *weight* of the drug in 100 parts (by weight) of finished solution. Thus, a 1-per-cent. solution of carbolic acid will contain in every 100 grn. just 1 grn. of the acid. The rule which

pharmacists are required to follow by teachers and board of pharmacy examiners is as follows: When a fluid ounce, for example, of a 1-per-cent. solution is called for, the druggist shall take 1 per cent. of 456 grn.—the standard weight of a fluid ounce of distilled water at ordinary temperature—of the drug, and dissolve it in sufficient distilled water to make the whole weigh 456 grn., that is, he shall use 4.56 grn. of the medication to make 456 grn. of the solution. To make a 2-per-cent. solution, 2 per cent. of 456—or 9.12—grn. of the chemical are to be used and water enough to make the finished solution weigh 456 grn. And the same rule applies to any desired strength of the solution. In this calculation it is assumed that 1 grn. of the solution occupies the same volume as 1 min. of water. However this is not exactly right; 456 grn. of a 5-per-cent. solution of carbolic acid measure a trifle less than 1 fl. oz. If it is desired to dispense just 1 fl. oz. of the solution, it is best to prepare a slight excess and discard the surplus.

If it is desired to prepare a 5-per-cent. solution with a fluid ounce of distilled water, the following rule will be of service: Let 1 represent the weight of the finished solution, 5 per cent. of which is carbolic acid and 95 per cent. water. Now we know that the 95 per cent. is 456 grn. (the weight of 1 fl. oz. of distilled water), and it remains to be determined how much the 5 per cent. is. By proportion we get:

$$0.95 : 0.05 :: 456 : x.$$

$$x = 24.$$

Thus, 24 grn. of carbolic acid (or any other substance) yields with exactly 1 fl. oz. of distilled water a 5-per-cent. solution.

When the solvent is lighter or heavier than distilled water, its specific gravity must be multiplied by 456 to get the weight of 1 fl. oz. of it. For instance, the specific gravity of ether is 0.725; 1 fl. oz. of it, therefore, weighs 0.725×456 , or 330.6 grn. To make a fluid ounce of 5-per-cent. ethereal solution of iodoform, it will require 0.05×330.6 , or 16.53, grn. of the drug and 314.07 grn. of ether; and to make a 5-per-cent. solution in chloroform (specific gravity 1.490), it will require 0.05×769.44 (the weight of 1 fl. oz. of chloroform; obtained by multiplying 456×1.490), or 39.47, grn. of iodoform and 729.97 grn. of chloroform.

Acoin

Dr. A. K.—Acoin is a local anesthetic, and is recommended as a substitute for cocaine. It is stated to be less toxic than cocaine, while the anesthesia produced by it is said to be more lasting.

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

A Judge's Opinion of Physicians as Expert Witnesses.—An expert, said ex-Judge Harvey at the recent meeting of the Pennsylvania State Medical Society, is one who has skill derived from experience. Mere erudition or book knowledge will not qualify a witness to be of use to the court, as his testimony is in reality not his own, has not been verified even by experience, and therefore it is useless. How many medical witnesses have demonstrated the truth of this observation? Physicians, again, it is said, often think that the opposing counsel are unduly severe in their questionings of the experts. In saying that this criticism is always unjust and that lawyers are never unduly cynical and over sharp, we think Judge Harvey himself errs not a little, but we agree that the expert does not always carefully base his opinions squarely upon scientific principles, and when it is evident that the expert's knowledge is not clear or that the scientific aim is not plainly uppermost, then the severity of the questioner is in fact justifiable. A corollary of this truth was shown in the charge that the testimony of medical men is often conflicting. This is a point which makes us wince. When such contradictions by experts occur in court our professional reputation suffers acutely. But this is usually a result of devotion to partisan rather than to purely scientific ends; it furnishes the strong argument of those who would make the expert the officer of the court. We also have a good deal of sympathy with the opinion that too often physicians use technical language in court which cannot be understood by the lay public nor even by learned lawyers. This is a pitiable error, but as Judge Harvey said, it is one usually made by the poorest educated. It is an evidence of as bad manners as of bad learning.—*Amer. Med.*

Transmission of Tuberculosis.—From the earliest epoch of recorded history the human race has been devastated by the "great white scourge." It destroyed its hectacombs of victims, and its ravages have been patiently endured, in deference to the prevailing belief, that it was "visitation of the sins of the fathers upon the children," with no consolation afforded by the hand of science. However, this curtain of Cimmerian darkness which long enshrouded the origin of tuberculosis was brushed aside when Koch proclaimed to the world his immortal discovery of its bacillus, and modern medicine achieved another triumph in the development of therapeutics and sanitation along the lines indicated by the light of his researches.

The fact is now universally conceded that tuberculosis is disseminated by the bacilli contained in the expectoration of an infected individual. Upon the desiccation of this sputum the bacilli are liberated and effect their entrance into the system of persons susceptible either by inhalation, ingestion or inoculation. The most common form of transmission is by inhalation. The bacilli after desiccation of the sputum, float in the air whenever any agitation of the dust may occur, and the presence of this expectoration in gathering places, such as theatres, assembly halls, school rooms, hotels, railway carriages, etc., is a prolific source of danger for fresh contamination. All fabrics, such as wearing apparel, the furnishing of apartments inhabited by consumptives, may become impregnated with the germs and be a peril to those

unaffected. Also damp and insanitary buildings, after once becoming infected, remain a standing menace to subsequent tenants.

It has been demonstrated that the disease may be directly conveyed by the breath of a tubercular individual, by the experiment of having him breathe through a cloth and finding thereon the bacilli by microscopic examination. Numerous instances are on record where consumption has been produced by the use of meat and milk obtained from animals affected with tuberculosis; even though the converse of this proposition was repudiated by Koch at the London Congress of Tuberculosis. Again, the infection has been conveyed by the use of drinking vessels and eating utensils which were used immediately previous by a consumptive. Direct inoculation of wounds and raw surfaces has occurred, though this manner of transmission is comparatively rare. In the consideration of this disease, controversies as to the possibilities of its being contagious, infectious or communicable are immaterial. From irrefutable evidence adduced, the well-established fact remains, that tuberculosis is transmitted and maintained by those afflicted with it.

The United States Government, through the Marine Hospital Service, has placed its seal of official recognition upon the contagiousness of consumption by excluding from immigration to our shores any person suffering with this malady.

The duty of the medical profession in the premises is well defined: limit its propagation by intelligent efforts directed to the destruction of the virulent germs contained in the excretion of consumptives, and this desired consummation may be attained by impressing upon both the patient and his attendants the virtues of personal prophylaxis.

Digressing to personal observation of the contagiousness of consumption, I will relate an instance: A married daughter contracted consumption, and returned home, where there were five unmarried sisters, besides her parents. After a brief illness she died. Of the other sisters, all but one developed the disease at varying intervals, and succumbed to it. There was no hereditary taint whatever in this family; the victims were all of them splendid specimens of young womanhood, and another impressive fact in connection with the circumstance was that two other sisters, who were married and lived in different localities, have never had a suspicion of pulmonary lesion.

In conclusion, I would say that the only means by which we can wage a successful campaign against the extension of tuberculosis, is by unceasing agitation of the fact that the disease is transmitted by those who have it, and their sputum must be rendered harmless.

If all consumptives could be segregated, its elimination would be possible, but as such a proposition is entirely Utopian, our efforts must be directed to the channel of personal prophylaxis.—Whyte Glendower Owen, A.M., M.D., in *New Orleans Med. and Surg. Jour.*

Modified Method for Testing Diabetic Urine.

—Owing to the character and variety of food we eat, states Dr. M. D. Hoge, Jr., it is not surprising that "sugar" in some form may often be found in the urine, varying from the merest trace to a pound or more in twenty-four hours. The form of glucose (CHO) met with most frequently and tested for chemically from the standpoint of the practitioner of medicine, is grape-sugar. All of the copper tests, based originally on Trommer's, require the presence of some alkali, which when sugar is present, has the power of reducing the cupric oxide to the cuprous oxide. A qualitative test of this character is compara-

tively easy, but a variety of methods more or less complicated, have been devised to determine the quantity of sugar in any given specimen. In order to simplify matters and to give definite quantities, S. H. Shieb, M.S., the chemist of the Virginia-Carolina Chemical Co., interested himself in this matter at the author's request, and furnished the following formula, which was repeatedly standardized by adding known quantities of pure grape-sugar to non-diabetic urine:

Solution No. 1.

| | | |
|---------------------------------|-----|-----|
| Ammonium Sulphate (purest)..... | 1.2 | Gm. |
| Copper Sulphate (purest)..... | 2.6 | Gm. |
| Distilled Water..... | 50. | Cc. |

Solution No. 2.

| | | |
|-------------------------------|------|-----|
| Caustic Potash by alcohol.... | 20. | Gm. |
| Distilled Water..... | 50. | Cc. |
| Dissolve, and when cool, add | | |
| Glycerin | 50. | Cc. |
| Ammonia Water...0.960 sp.gr. | 300. | Cc. |

Add No. 1 to No. 2 and dilute the whole to 500 Cc. with distilled water. Stopper securely and shake till thoroughly mixed.

As to the method: Heat 1 dram of this solution in a test tube to boiling. Add the urine drop by drop, at slow intervals, boiling after each addition until the blue color has been discharged and the fluid has a light amber color or is colorless.

| | |
|-------------------------|-----------------------|
| 17 min. urine represent | 1 grn. sugar per oz. |
| 9 min. urine represent | 2 grn. sugar per oz. |
| 7 min. urine represent | 3 grn. sugar per oz. |
| 6 min. urine represent | 4 grn. sugar per oz. |
| 5 min. urine represent | 5 grn. sugar per oz. |
| 5 min. urine represent | 6 grn. sugar per oz. |
| 4 min. urine represent | 7 grn. sugar per oz. |
| 4 min. urine represent | 8 grn. sugar per oz. |
| 3 min. urine represent | 9 grn. sugar per oz. |
| 3 min. urine represent | 10 grn. sugar per oz. |

If the urine contains more than 10 grn. of sugar per ounce, it must be diluted with an equal quantity of water, and the number of grains per ounce multiplied by two.—*Med. Exam. and Pract.*

Importance of Tentative Diagnosis.—It is trite to say that our patients come to us not to enable us to perfect ourselves in the knowledge of disease processes, but for the purpose of getting relief from their ailments. In the process of accomplishing this very desirable end we find that the knowledge of two things is essential. First, of the symptomatology and nature of the disease process and, second, of the nature and effects of remedies. Now, unfortunately, there are a few men in this country who either from lack of energy, from natural indolence or from insufficient education are unable or unwilling to exhaust every possible effort to discover the nature of the disease processes. In fact, it can fairly be said that it is the exception for a case to be exhaustively studied, at least with reference to every possibility in connection with the diagnosis, and we mean by this, bacteriological and chemical investigations of all the secretions and of the blood, in addition to a most thorough physical examination. Granting these limitations, either of our own making or imposed upon us, it becomes necessary to determine what our obligations actually are, and we think that one of these obligations is to exhaust, as far as it can possibly be done, the means at our command for making a correct diagnosis. These means may be extremely inadequate, and yet, if they are the best we can obtain, we are not excused on account of their inadequacy from the duty of determining as nearly as possible the disease from which our

patient is suffering, even if the determination partakes more of the nature of a guess than of inductive reasoning. And it is only after such a tentative diagnosis that we are justified in suggesting any palliative or curative measures. Nothing has a greater tendency to increase a man's skill in this respect than the habit of writing down, after each examination, the diagnosis that seems to him most likely, no matter how many question-marks he puts after it, nor how frequently he changes this diagnosis at subsequent examinations. The very necessity of putting in concrete form what is too often a hazy idea, sharpens the faculties and stimulates the mental processes. And to further this self-training the effort to diagnose all cases is most valuable, and the practice of being satisfied with the diagnosis of a little cold, located somewhere in the body, should be banished from medical practice.—*Phila. Med. Jour.*

The Art of Prognosis.—To the patient there is usually no more important question which he has to ask his physician than that which has to do with the final outcome of his malady. "Am I going to get well?" "When am I going to get well?" "Am I going to get entirely well?"

There is no physician who does not have these and similar question put to him daily and his answers to them stamp him as wise or the reverse.

Wisdom in prognosis usually comes to the physician somewhat late in life and as the result of long experience. It would, perhaps, be hard to say which extreme of temperament is the most dangerous in medicine, the completely optimistic, or the completely pessimistic, although if we had to choose we would select the former. It would be well, especially for the young physician, to have impressed upon his mind the knowledge that there are very few maladies, no matter how mild they seem at first, which may not terminate fatally, and that, on the other hand, it is very rarely possible to say positively, in any given case, no matter how grave the patient's condition may seem, that he is going to die. Tumors, in spite of apparently conclusive evidence of malignancy, may not be malignant, and even undoubtedly malignant tumors have disappeared without operation, and left no trace behind them. Patients, apparently in the last stages of pulmonary tuberculosis, have recovered and lived many years in excellent health, not infrequently outliving the physician who had doomed them to a speedy death, and many a person has recovered from typhoid fever, pneumonia, or some other acute illness, after the physician had given up hope and declared positively that death was but a matter of hours. On the other hand, few physicians have escaped the experience of seeing apparently trifling ailments develop most unexpected symptoms and proceed rapidly to a fatal termination.

Caution in prognosis should always be exercised, and while it is much better to have a patient recover after we have prophesied death, than to have him die when we have made light of his illness, it must not be forgotten that a cheerful prognosis is often an important factor in aiding recovery, and that to tell a patient that he is not going to get well is quite likely to be the cause of hastening his death.

There are certain physicians whose patients are always "threatened" with some grave disease; with them every sore throat is a "threatened" diphtheria, every cough is a "threatened" consumption, and every diarrhea is a "threatened" typhoid fever, and after frightening the patient and his friends unnecessarily they take great credit to themselves for having broken up the "threat-

ened" disease and saved the patient from a lingering and perhaps fatal illness. Such practice is the veriest charlatanry and is mentioned only to be condemned.

Caution in prognosis is wise and to be commended, but not deliberate deceit. Occasions, to be sure, will not infrequently arise, when the physician will rightly decide that the whole truth, so far as it appears to him, should not be told to the patient, on account of the depressing effect it may have upon him, but under such circumstances, particularly when the patient may have important business affairs to arrange, some member of the family or some friend, should share the responsibility of concealing the actual state of affairs from the sick one and of deciding how far the real condition may be concealed and how much, of what is believed to be the truth, shall be told him.

Among the many responsibilities which physicians are called upon to assume, few call for more tact or more knowledge of human nature, than the giving of prognosis, and it would be well if teachers of medicine would give a little more prominence to this important subject, not so much in detail as regards individual diseases, but as regards the subject in general.—*St. Paul Med. Jour.*

Silent Forms of Epilepsy.—"When we see a convulsion of the grand mal type, hear the agonizing epileptic cry; see the victim fall prostrate to the earth; witness the powerful agitation of the muscular system of the entire body; see the bloody froth about the mouth; the lacerated tongue; the deeply congested face; the upturned eyes, and later the labored breathing and prolonged coma that nearly always follows, we have seen but one half the picture, and seeing only that, we are apt to regard epilepsy as a disease that affects the physical to the exclusion of the psychical side, and as a thing of the mind entirely apart. * * * The greatest medicolegal problem connected with epilepsy is encountered in its purely psychical forms—those unaccompanied by any motor disturbance; that make no rude sign of their approach; that sometimes last for hours or days, or even weeks, and finally pass away as silently as they came."

It has long, and with perfect soundness, been held that the lighter forms of epilepsy, including petit mal and those more purely psychical, were more difficult of cure than those in which muscular commotion was the most prominent feature. No other disease of the nervous system calls for so accurate a knowledge of cerebral localization as epilepsy. The character of the fit indicates pretty nearly the part of the brain in which the attack begins and to which it may subsequently spread. I am speaking now of genuine epilepsy, in which the essential condition or lesion is primarily in the brain, and not of convulsions of a reflex type, in which the cause is in almost any other part of the body, and which only affects the brain secondarily.

The silent forms of epilepsy come from some disturbance in the parts of the brain known as the "organs of the mind" and which physiologists seem to agree in locating in the frontal lobes. Two kinds of epilepsy may come as the result of a disturbance in these parts—the psychical epileptic equivalent, so-called, but what it would seem best to us to designate as the psychomotor epileptic equivalent, because it always embraces a motor element, and the psychical attack pure and simple. So far as the location of the lesion is concerned, they are probably at first identical, differing only in degree, the former being more violent, more commotional in character, and having a general motor disturbance but no regular con-

vulsion; the latter always quiet and unobtrusive and free from motor disturbance of any kind, but just as destructive of the faculties of the mind in the end. There is never any difficulty in recognizing the psychical epileptic equivalent, for its one characteristic is psychomotor violence; but psychical attacks may go unrecognized for years, even though they repeatedly occur in the presence of unskilled observers.

These mental seizures are most apt to occur in persons of a neurasthenic type and it is because of their disease they manifest neurotic tendencies. They have a feeling that something is wrong; they are apprehensive, restless, nervous, given to sudden impulses, solicitous, unable to act or think logically in a well balanced and connected way, and above all, they have a bad memory, because new impressions are so often destroyed by swiftly changing conditions in the brain that lead to disorganization of the brain cells that hold the function of memory. It is difficult for them to grasp things pointedly and clearly, and at times, when the seizure is present, although they may seem to be in a normal state, their perceptive senses are like camera plates that have been exposed—the recording surface is clouded over, dead to new impressions.

People who forget in a striking and unusual way; who disappear for long periods of time, and who find themselves, with returning consciousness, in a distant place, undoubtedly suffer from epilepsy of this type. They have done nothing violent; there has simply been a lapse in the conscious operations of the mind, without any violence on the part of the body, the latter continuing to act in a normal though purely automatic manner. P. DeM. and R. E. H., patients at the colony, manifest typical cases of this kind. The former may be sitting playing cards when a seizure will come on so insidiously in character as to be wholly unobserved by the companions about him, and while in this state he may go and do some of the things he is accustomed to do while in his normal condition, like sweeping the floor, dusting, arranging the furniture, etc., a knowledge of the execution of which he carries into the subconscious state perfectly, *but its expression in that state is purely automatic*, for it makes no impression on his mind, so he remembers absolutely nothing about it afterward. We have also seen cases in which attacks of grand mal alternated with those purely of the mind, so that if a person known to have a grosser form of epilepsy should commit a crime and there should be a witness to the act; if the witness should testify that there was no evidence of a fit at the time, there is still no reason why an attack of psychical epilepsy in complete form should not have been present at the moment.

Cases of silent epilepsy are by no means infrequent and are of great importance, both from a medical and a medicolegal standpoint. Medically they constitute the truest cases of sudden, complete insanity; and legally the existence of such a state of mind at the time of the commission of the crime is, of course, proof positive of the lack of responsibility. My objects in calling attention anew to this form of epilepsy are twofold: First, to help stimulate the spirit of investigation in medical jurisprudence that has for its object the placing of responsibility for crime where it rightly belongs; second, the proper medical care of persons who have this very obscure and often unrecognized affection, while the malady is yet in its most benign stage.—William P. Spratling, M.D., Medical Superintendent at the Craig Colony for Epileptics at Sonyea, N. Y.; in *New York Med. Journal*.

Correspondence

AND

BRIEF CLINICAL REPORTS

Our readers are invited to make use of these columns for brief clinical reports or the interchange of ideas concerning materia medica and drug therapeutics.

Treatment of Lobar Pneumonia in Infants

Editor MERCK'S ARCHIVES:

I drop you these lines regarding a note in your "correspondence" columns recently by Dr. Himmelsbach, of San Francisco. I carefully perused his method of treating lobar pneumonia in infants, and thought a part of his treatment perfectly rational. But upon reading farther down I thought the doctor must have got lost for an additional something to do to demonstrate his skill to his patrons. Just think, giving a hot mustard bath to the point of redness! What does he do it for, if not for a benefit? Then he recommends cold sponging, adding alcohol to the water, to reduce temperature. Now I cannot see why he first employs hot mustard bath, and then, entirely reversing his method of treatment, cold water and alcohol added. I wish he would explain this method of treatment, and what result he expects to receive. He says he would not use hot poultices because they are soggy and so trying to the patient; but he uses cold sponging to reduce temperature.

It seems to me that almost all of his treatment needs a more complete explanation before it could be considered as effective and successful. There are too many physicians who give such ideas of a routine treatment, and offer suggestions to the medical profession; no doubt these are honestly given, and with the best and purest motives. But truly, many of them are only about a quarter emphasized or dwelt upon, and why thus? If one is going to deliberate upon any subject, why not give, in full concise detail, what it is expected to realize by such and such treatment, and give full reasons for doing so. Then the physicians who read it could readily discern their true motive and object. In my opinion, it is of little importance to jot down a few common-place and imperfectly described treatments. *Why* does Dr. H. give hot mustard baths to the point of redness; what results are obtained? If good results are obtained from it, why not keep it up as the case demands, instead of switching to cold sponging baths? Why does he add the alcohol? Simply to deceive the parents? I rather think not. Is it for its stimulating effect, or for what?

It seems to me that the doctor's few remarks need a more complete explanation and thorough investigation before they could be accepted by the general observant practitioner.

This comment is made from a perfectly sincere motive. Truly, I would appreciate a full explanation of his treatment; and if he will kindly give it, I shall thank him for his trouble, as a co-worker in the medical profession.

Butte, Mont.

J. G. LOBB, M.D.

Clinical Experience with Dionin

Editor MERCK'S ARCHIVES:

In the few cases in which I made use of dionin, the results were perfectly satisfactory and in full accordance with claims made for it by many investigators. In case of mild *morphinomania* was able to substitute dionin, which effectually relieved pain in legs. The case was not an extreme one, but had it been, I am confident that

dionin in sufficient quantity would have acted just as well. In other cases of abdominal and pelvic *pain*, of to me somewhat obscure origin, the dionin seemed to answer the purpose in stopping the pain just as well as morphine would; gave $\frac{1}{4}$ grn. where I would have administered $\frac{1}{8}$ grn. of morphine, and there were no after-effects whatever. In *cough* of case of phthisis where codeine had been used for several months, the dionin was used and served to control the cough in even less dose and daily quantity than the codeine.

I shall continue the use of dionin; especially in cases of morphine habit I feel that I have a most valuable aid in treatment and cure of same.

Denver, Colo.

A. P. ROWLEY, M.D.

Treatment of Poisoning from Tinct. Aconite Root

Editor MERCK'S ARCHIVES:

A young woman of this place recently attempted suicide by taking tincture of aconite root. The stomach was siphoned and profuse emesis produced by a hypodermic of apomorphine hydrochlorate. Patient was doing well the next day and on the road to recovery. There was heroic stimulation used, both by the hypodermic syringe and per rectum. Artificial respiration was kept up about an hour. Stimulants of brandy, hypodermically, and artificial heat.

Plymouth, Pa.

D. F. SMITH, M.D.

New Treatment of Epilepsy

Editor MERCK'S ARCHIVES:

I wish to submit the following report on two cases treated at the Massachusetts Hospital for Epileptics:

The two patients were put on bromipin; the one on June 16, the other on June 17, 1902. Each was given a dram of the remedy three times a day.

Patient A was a young man seventeen years old, who had epilepsy for four years. No heredity; family history good. Previous to his taking bromipin he was having on an average of two or three seizures a day. After he had taken bromipin for a few days, the seizures decreased in number, and since then up to the present time, Sept. 20, 1902, he has had ten severe and eleven mild seizures. The gastric, mental and skin disturbances so common after the use of bromides were not observed in the case, even after a prolonged use of bromipin.

Patient B, a young man nineteen years old. No heredity; family history good. He was admitted to the hospital June 17, 1902. His people said that he had been having a great many convulsions of late, as many as four or five in the course of twenty-four hours. He was placed on bromipin, and in a short time his seizures lessened both in numbers and severity; and at the present time, Sept. 20, 1902, he has on an average of one or two seizures a week. None of the usual ill effects of the bromides were noted in this case.

We also find bromipin of great service in status epilepticus. Here it is our custom to give it hypodermically, in 6 Cc. ($1\frac{1}{2}$ dr.) doses, and repeat it every hour if it does not control the convulsions immediately.

We think bromipin possesses all the medicinal properties of the bromides without their well-known disadvantages, and with the additional advantage that it can be given hypodermically with perfect safety.

Palmer, Mass.

EVERETT FLOOD, M.D.,
Supt. M. H. for E.

Book Reviews

DISEASES OF THE ANUS, RECTUM, AND PELVIC COLON. By James P. Tuttle, A.M., M.D., professor of rectal surgery in the New York Polyclinic Medical School and Hospital, etc. To comment critically upon such a comprehensive work as this would require that the reviewer devote days to its study and examination. It is based on a twelve years' conduct of one of the first and largest special clinics for the teaching and treating of rectal diseases, by one recognized as an authority upon the subject. Examination, diagnosis, and local treatment are given much space, as subjects which the general practitioner needs most to know. The non-operative treatment of each disease is first described together with the class of cases in which it will probably be useful, but the author does not hesitate to say when such measures are likely to prove futile. Modern methods and improved instruments for diagnosis are carefully described and illustrated, and the various operations are outlined clearly and in detail. There are 338 original illustrations, taken from actual clinical cases or dissections, and the eight colored plates are all multiple and exemplify pathological conditions. (D. Appleton & Co., New York. 961 pages. Price, cloth, \$6; half-leather, \$6.50.)

THE DISEASES OF INFANCY AND CHILDHOOD. By Henry Koplik, M.D., ex-president of the American Pediatric Society. Recognizing that there has been much research work in pediatrics during the past ten years, but that the literature of the subject has been scattered, the author has gathered and unified in one convenient volume the world's best pediatric practice. So far from being a compilation, however, the work is based upon the author's individual experience and his careful judgment regarding the work of other pediatrics. Exhaustive consideration is given to methods of examination and physical diagnosis, to the subject of infant-feeding, and there are chapters on diseases of the lungs, stomach, intestines, and heart. Diseases of the blood are also treated comprehensively, as are scurvy, scrofulosis, tuberculosis, and the various forms of meningitis. The volume is markedly practical, the author having aimed to spare his readers the labor of deciding between divergent views. (Lea Brothers & Co., Philadelphia and New York. Octavo, 675 pages, 169 engravings, and 30 plates in colors and monochrome. Price, cloth, \$5 net; leather, \$6 net.)

A TEXT-BOOK OF ANATOMY. By American Authors. Edited by Frederic Henry Gerrish, M.D., professor of anatomy in the Medical School of Maine, Bowdoin College. Two years have elapsed since the appearance of the first edition of this work, the merits of which have led to its adoption in a number of medical colleges and to its extensive use by students and practitioners both here and abroad. In the present edition such changes have been made as were rendered necessary by the progress of the science of anatomy during the past two years. Much new matter has been added; and in place of the schematic device previously employed for showing the relations of the arteries, a series of horizontal sections at different levels has been devised, the names of the parts being printed directly upon them wherever feasible. The arrangement of the book is along familiar lines, the ordinary divi-

sions of systematic anatomy having been followed in the main. Each author has set forth his subject in such manner as experience has shown him to be most profitable. The volume is profusely illustrated, in black and in colors, a large proportion of the engravings being in two, three, or four colors; and the text is very clear and to the point. The authors, all Americans and professors of anatomy, are Arthur Dean Bevan; Frederic Henry Gerrish, editor of the work; William Keller; James Playfair McMurrich; George David Stewart, and George Woolsey. We warmly commend the work. Gerrish's anatomy is an excellent guide to the teacher of anatomy as well as to the student, and will be found by the latter of special value at the dissecting table. (Lea Brothers & Co., Philadelphia and New York. Second edition, thoroughly revised and enlarged. One imperial octavo volume of 943 pages, with 1003 engravings. Price, cloth, \$6.50 net; leather, \$7.50 net; flexible water-proof binding, for use at the dissecting table, \$7 net.)

A TEXT-BOOK OF PHYSICAL DIAGNOSIS. For Students and Practitioners of Medicine. By Egbert Le Fevre, M.D., professor of clinical medicine and associate professor of therapeutics in the University and Bellevue Medical College, New York. Written primarily for students, this work presents in concise form the most recent findings in its important field, an element that will make it of value to the general practitioner also. Careful directions and instructions are given for inspection, palpation, percussion, auscultation, etc., in diseases of the respiratory and circulatory systems of the abdominal organs. The significance of these manipulations, and respiratory and cardiac sounds, their production and modifications, both normal and pathological, receive very full explanation. Special chapters are devoted to diseases of the respiratory tract, heart, pericardium, blood-vessels, etc., and in a section, illustrated with 12 full-page plates the author covers the latest results in X-ray diagnosis. (Lea Brothers & Co., Philadelphia and New York. 12mo, 440 pages, and 74 engravings. Price, cloth, \$2.25 net.)

FAVORITE PRESCRIPTIONS, with Notes on Treatment, is a compilation of just what its title indicates, from the writings or unpublished records of distinguished practitioners, edited by B. W. Palmer, A.M., M.D. This, the seventh edition of the work, has been revised and contains added matter of value. The design of the author has been to render available, for the every-day use and guidance of the physician, the treasures of medical wisdom which have been stored up by the earnest labors of men most eminent in the profession, and we think he has succeeded to a satisfactory degree. (E. B. Treat & Co., 241-243 W. Twenty-third street, New York. 248 pages. Price, \$2.)

MASSAGE AND THE ORIGINAL SWEDISH MOVEMENTS, by Kurre W. Ostrom, from the Royal University of Uppsala, Sweden, has now reached a fifth edition, the first of which was issued barely twelve years ago. The illustrations, of which there are now 115, and the text telling how to perform the various manipulations, are lucid and satisfying. We commend the book to the physician as one that will acquaint him with the principal points of and latest developments in mechano-therapeutics and the treatment indicated. (P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia. Fifth edition, revised and enlarged. Price, \$1.)

NEW WORK. JUST READY.

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Miscellany

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and worth reading

PROF. A. M. PHELPS.—At a meeting of the faculty of the New York Post-Graduate Medical School and Hospital, held October 8, 1902, it was resolved that a committee be appointed to draft a minute in appreciation of the professional life and services of their late colleague, Professor A. M. Phelps. The committee subsequently made the following report, which was ordered to be sent to the medical journals for publication and to be spread upon the minutes of the faculty:

"In the death of Professor A. M. Phelps our school has lost a teacher and the medical profession is deprived of a member whose energy cleared the way for great progress in his field of work during the past twenty years. His was the spirit of the pioneer. Not content with things that have been done, but ever restless to find new vistas with new horizons, his single-hearted devotion to the development of what is best in orthopedic surgery led him to engage in a constant warfare of ideas. No matter whether the ideas were those of colleagues or his own, no matter whether he was right or wrong, his energy gave life to the subject and set men to thinking. It is such active lives as his that keep subjects alive, that keep men aroused, and lead them to their utmost, and when this is for no selfish end, but solely bent in the interest of science we have a public benefactor whose usefulness exceeds that of the capitalist who gives his million of dollars to the most worthy charity. The capitalist gains his fortune through his guidance of the work of others, and the scientist adds to the total of the world's knowledge by stimulating others to follow in his lead of investigation, or to take long steps in progress at his suggestion. In the professions there is a tendency for men to fall asleep upon the soft pillows of consensus of opinion, but men like Dr. Phelps realize that consensus of opinion is often wrong because it represents the lines of least resistance, and he turned all sleepers out and made them uncomfortable until they had made their own new opinions. Doctor Phelps was impatient with those who were contented in their work, and as impatient with himself, for he realized that great fields for giving help to suffering fellowmen lay still undiscovered.

"According to human experience, greatness implies the possession of constructive motives, nobility of purpose, catholicity of view, erudition. Doctor Phelps' motives were always constructive, his ideals were of the noble sort that included no interest before the interest of the sufferer. His views were so comprehensive that he could not long remain a partisan in any field aside from that of definite knowledge. His learning was that of the man of alert conception and of trained memory. Dr. Phelps, then, was a great man, and his opponents are the ones who would say it sooner than he himself would have acknowledged it.

"It was not in our school alone, nor in the city, nor in the state, nor in America, that his talents were recognized, but wherever in the world men are engaged in studying the things that he studied, he gave direction to their methods and force to their efforts. An influence like that of Doctor Phelps is that of the wireless telegraph, sending through invisible ether an impulse that is felt and that meets sympathetic response in minds that vibrate in unison at all distances, an expendi-

ture of energy that finds its kinetic in the development of new knowledge. Yet he was not the one to say that he was right, only that he wanted to be right, and that he wanted others to be right.

"He was proud in his strength yet modest in the presence of those who were stronger than he. Few knew this side of his character, but those of us who knew him best knew how much of humility there was beneath his forceful bearing.

"And if we speak of Doctor Phelps as the surgeon, what shall we say of him as the citizen, as the friend, as the husband and father? Matters of public interest were matters with which he made himself conversant, and whether at home or abroad he formulated views of public affairs with a clearness of view that engaged the attention of statesmen. As a friend he was loyal almost to the point of weakness. His enjoyment of life and of his friends was that of a man whose spirit of camaraderie overlooked all failings. Beneath the stern exterior developed by men of his strength to resist external impressions, there was a heart so kind and sympathetic that a tale of woe or a pathetic sight moved him as it would have moved a woman, and his kindly deeds in response to the impulse of a great and generous nature were unknown to the world at large, because he considered it beneath the dignity of a man to show any side excepting the one that accomplishes things by force.

"Doctor Phelps has been taken from the home, from the profession, and from the world before his activities had reached their zenith, but the influence of such a life as his will last beyond the lives of those who felt his influence, and we, his colleagues, sorrowing in his loss, exult in the privilege that we had in knowing him."—ROBERT T. MORRIS, REYNOLD WEBB WILCOX, HENRY LING TAYLOR, committee.

THE CARNEGIE INSTITUTION.—What to do with the splendid gift of Mr. Andrew Carnegie is a weighty problem, and it seems that the trustees have not yet solved it. Opinions differ widely as to the position the Carnegie Institution should occupy. Professor Münsterberg, of Harvard, suggests that a sort of over-university should be founded in Washington, which should hold the same relation to the universities of the country that the post-graduate school holds to the academic departments. The faculty should consist only of great men, perhaps 15 in number, with a salary of \$10,000 each. They should either be appointed for life, or should remain in Washington for one year, securing leave of absence from their own schools for that length of time. They should possess some measure of self-government, and the Institution might become a model for the universities in which, to use Münsterberg's words, "the autocratism of the trustees is clearly a relic of the college period, but quite unsuited to a university." The German system of scholars choosing scholars should be adopted. There might be 50 fellowships of \$1,000 each, to be distributed by the universities. Münsterberg is opposed to the application of the funds of the Institution to the support of existing universities, as "every cent from Washington disburdened to local officials is an opiate for the feeling of responsibility of alumni and trustees." The chief aim of the over-university should be the development of synthetic thought, which is a greater function even than the fostering of experimental scientific work. He also advocates a large printing establishment for the publication of monographs, or even text-books.

Professor Gage, of Cornell University, makes the following propositions: (1) The Carnegie Institution is not needed for educational purposes.

(2) Its true place is expressed in the first aim given by the founder—"to promote original research." (3) It can most effectively promote research by utilizing, so far as possible, the facilities of existing institutions. (4) Its support of the men selected to undertake researches should be generous, and abundant time should be allowed. (5) The researches most demanded in biology at the present time are complete investigations of the embryology, structure, and function of a few forms from the ovum to old age and death.

Professor Branner, of Stanford University, sums up his views in the following words: (1) The Institution should try to help wherever help is needed and can be advantageously used. (2) It should refrain from unnecessary or unwelcome interference in work already being done by individuals and by other institutions. (3) Care should be taken to encourage scientific work all over the country. (4) Applications for aid should be received from men engaged in scientific work, and these applications should be referred to committees of specialists for advice. (5) The national government should co-operate with the Institution by providing the necessary buildings at Washington and by permitting, so far as convenient and under proper restrictions, the utilization of the scientific bureaus of the various departments. (6) Some means should be sought to utilize the sabbatical years of university professors engaged in scientific work.

According to President Jordan, one of the functions of the Institution should be the establishment of laboratories at Washington for special investigations. As an example of such a laboratory, he mentions a breeding-house or vivarium for the study of heredity and variation on a large scale, with a competent force for observation and record. Such an establishment should be in charge of the man who, whatever his nativity, can make the most of it. He emphatically opposes the use of any part of the fund to pay the expenses of students, as distinguished from tried investigators. Another function of the Institution should be to make the scientific resources of Washington available to those who can use them.

Physicians are as deeply interested in the possibilities of the Carnegie Institution as any other class of men. While, of course, our profession has the generous Rockefeller foundation, there are innumerable problems clamoring for solution in which a part of the Carnegie fund should be used. In order to secure the very highest results, it is necessary that the Institution shall be managed upon the broadest principles.—*American Medicine*.

REASONS WHY HE CAME TO THE ASYLUM.—

The new patient explained his family relations as follows: "I met a young widow with a grown step-daughter and the widow married me. Then my father who was a widower, met my step-daughter and married her. That made my wife the mother-in-law of her father-in-law and made my step-daughter my mother and my father my step-son. Then my step-mother, the step-daughter of my wife had a son. That boy was, of course, my brother, because he was my father's son. He was also the son of my wife's step-daughter, and therefore her grandson. That made me grandfather to my step-brother. Then my wife had a son. My mother-in-law, the step-sister of my son, is also his grandmother because he is my step-son's child. My father is the brother-in-law of my child because his step-sister is his wife. I am the brother of my own son who is also the child of my step-grandmother. I am my brother's brother-in-law, my wife is her own child's aunt,

(Continued on p. xiv)

TISSUE BUILDING IN TUBERCULOSIS

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(Continued from p. xiii)

my son is her own grandfather. And after trying to explain the relationship in our family some seven times a day to our calling friends for a fortnight, I was brought here—no, came here of my own free will."—*Med. Dial.*

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.—The twenty-eighth annual meeting of this association was held in Kansas City, October 15, 16, and 17. The following officers were elected for the ensuing year: President, Edwin Walker, M.D., Evansville, Ind.; vice-presidents, Hugh T. Patrick, M.D., Chicago, Ill.; Wm. Britt Burns, M.D., Memphis, Tenn.; secretary, Henry Enos Tuley, M.D. (re-elected), Louisville, Ky.; treasurer, Thos. Hunt Stucky, M.D. (re-elected), Louisville, Ky., chairman committee of arrangements. Next place of meeting, Memphis, Tenn., October 7, 8 and 9, 1903.

SOME FACTS ABOUT VACCINATION.—Owing to a lack of exact knowledge from absolutely reliable sources on the subject of vaccination, there is a good deal of misapprehension in the public mind as to the efficacy of vaccination as a protection against smallpox, and the constant inquiry is made: "When shall we vaccinate?" "How long does it protect?" and "How often should we be vaccinated?" Many members of the medical profession, busy with other things to do and not compelled to face the epidemic horrors of a hundred years ago and not exact in their knowledge on the subject of vaccination, have a halting, uncertain, confused state of mind on the subject, which goes far to create doubt in the public. There are doctors, and good ones, too, who have had so little experience with vaccination that they do not know what constitutes a successful vaccination. I visited a neighboring town where a reputable physician of unquestioned ability told me he had a case of what he believed to be smallpox in a child he had vaccinated six weeks previous with a typical result. With the doctor I visited the child, found smallpox present, but absolutely no evidence of vaccination. There had been a scarification—too deep and too large—a black scab and a sore, but no vesicle, no febrile reaction and no scar. Had not some one who knows a vaccination seen this child the story would have been published to the world that a child had smallpox who had been vaccinated six weeks before the attack—a circumstance that never occurred and never will occur. Within a year there have been cases of smallpox reported by doctors as having occurred in persons after a recent vaccination. I am perfectly satisfied in my own mind that such cases are either chicken-pox, mistaken for smallpox, or more frequently the supposed post-vaccinal victims are not vaccinated at all, but have sore scarifications which are mistaken for and put down as vaccinations.

Many physicians not familiar with the glycerinated lymph had read that the new lymph produced results less severe than that produced by the "points" they had formerly used; secured spurious lymph from an active, enterprising firm, and mistook the mild or severe sore, as the case might be, caused by the scarification and sometimes extraneous infection, for a true vaccination. This inert lymph even in the hands of competent doctors has caused doubt and confusion in the minds of many as to the efficacy of glycerin lymph, and has also caused to go on record cases of smallpox in persons supposed to have been recently vaccinated. This is a fruitful source of error in the records against vaccination, which

should be eliminated. I have evidence that this firm is producing potent lymph now.

Another source of error is that it has been customary to record as vaccinated persons vaccinated after exposure to smallpox. This is now done in London, England, and the blunder has been pointed out by the British medical journals. The report comes from London, England, that half the persons dying from smallpox had been vaccinated. I care not where such statements come from, they are not true. Such a statement means that the records are not made from facts; that they are perpetuating the old errors, taking the patient's word for fact and recording cases as vaccinated who were never vaccinated until after exposure. I have had reputable physicians tell me that they have had typical vaccinations with no resulting scar. Such a result is not to be relied on as protective. Revaccinate all such and another source of error will be eliminated. A successful vaccination may be known by the presence of vesiculation, umbilication, pustulation, mild and limited inflammatory area with febrile reaction. In about twenty days from the beginning of the vesicle the resulting scab comes off. This leaves a characteristic scar unlike that produced by any other agency. This refers to a typical result only. We must look with suspicion on any vaccination lacking these characteristics.

No person is insusceptible to vaccination. That is, vaccinia can be induced at least once in every person. I have known eight, ten, and in one instance—in the practice of the late Dr. Garrott of the Chicago Health Department—thirteen attempts to be made before a successful result was attained. Had Dr. Garrott stopped at the twelfth attempt the child would have been considered insusceptible. It is mischievous and untrue to teach that there is such a thing as insusceptibility to vaccinia. In some persons one vaccination will protect for a lifetime, but in many cases the protective influences will be partly lost in from five to thirty years. It will protect against death from smallpox long after it has ceased to protect from smallpox. It is not claimed now that one vaccination gives immunity from smallpox for life, though it often does. In most persons two vaccinations are all that will take, once in childhood and once in later life. By experience it has been found that there are comparatively few people in whom vaccination will take more than twice in the course of a lifetime.

One scar, I believe, is as good as several, unless the scars are made with an intervening period of time. When a vaccination is made the resulting reaction in the human economy is systemic, and one point of inoculation is as efficient as several. This was the belief and teaching of Jenner himself. When smallpox has been inoculated at one point the resulting disease gives the same immunity as does a multiple inoculation, and the same is true of other epidemic diseases. The figures produced to show that persons with multiple vaccination scars are better protected from smallpox than those with but one scar do not take into account that some of these scars, where more than one exists, were not made at the same time, but were from revaccinations at a later period. Since presenting this paper at the recent meeting of the American Medical Association, my attention has been called to the following passages in a "Report on the Smallpox Epidemic in Illinois, 1881-1883, and the Relation of Smallpox and Vaccination," by Drs. John H. Rauch and F. W. Reilly, and published in the Fifth Annual Report of the Illinois State Board of Health, pp. 211-520. The writers say (page 495): "As to the

(Continued on p. xvi)

DON'T YOU REMEMBER that "the most important alkaloids of opium are the following: **Morphine**—anodyne, hypnotic, narcotic; **Codeine**—anodyne, hypnotic; **Narceine**—hypnotic; **Narcotine**—a powerful Tetanizer and wholly devoid of Narcotic Properties; **Papaverine**—a Convulsant; and **Thebaine**—a powerful Spinal Exaltant, Tetanizer, resembling Strychnine?" And don't you appreciate the priceless value of a preparation like **Swapnia** from which all the poisonous, toxic alkaloids have been completely eliminated? Your patient would, at any rate. Sold by druggists generally.

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MEETINGS OF STATE MEDICAL SOCIETIES

| NAME | ANNUAL MEETING | WHERE HELD | SECRETARY |
|--|-------------------------------|----------------------------|--------------------------------------|
| Alabama Medical Association..... | April 21, 1903..... | Talladega, Ala..... | G. P. Waller, Montgomery, Ala. |
| Arizona Medical Association..... | —, 1903..... | Phoenix, Ariz..... | Chas. H. Jones, Tempe, Ariz. |
| Arkansas Medical Society..... | May 12-14, 1903..... | Jonesboro, Ark..... | J. P. Runyan, Little Rock, Ark. |
| California, Med. Soc. of the State of..... | April 21, 1903..... | Santa Barbara, Cal..... | George H. Evans, San Francisco, Cal. |
| Colorado State Medical Society..... | June 16, 1903..... | Denver, Colo..... | J. M. Blaine, Denver, Col. |
| Connecticut Medical Society..... | May 27-28, 1903..... | Hartford, Conn..... | N. E. Wordin, Bridgeport, Conn. |
| Delaware Medical Society..... | June 9, 1903..... | Dover, Del..... | John Palmer, Jr., Wilmington, Del. |
| Dist. of Columbia Medical Association..... | Oct ber 7, 1902..... | Washington, D. C..... | Monte Griffith, Wash. |
| Florida Medical Association..... | April 8, 1903..... | St. Augustine, Fla..... | J. D. Fernandez, Jacksonville, Fla. |
| Georgia Medical Association..... | April 15, 1903..... | Columbus, Ga..... | Louis H. Jones, Atlanta, Ga. |
| Idaho State Medical Society..... | October 9, 10, 1902..... | Moscow, Idaho..... | Ed. D. Maxey, Caldwell, Idaho. |
| Illinois State Medical Association..... | May 19-21, 1903..... | Chicago, Ill..... | E. W. Weis, Ottawa, Ill. |
| Indian Territory Medical Association..... | December 2-3, 1902..... | Muskogee, I. T..... | Fred. S. Clinton, Tulsa, I. T. |
| Indiana State Medical Society..... | —, 1903..... | Richmond, Ind..... | F. C. Heath, Indianapolis, Ind. |
| Iowa State Medical Society..... | May 20-22, 1903..... | Sioux City, Iowa..... | V. L. Treynor, Council Bluffs, Ia. |
| Kansas Medical Society..... | May 6-9, 1903..... | Concordia, Kan..... | J. W. May, Kansas City. |
| Kentucky State Medical Society..... | May 12, 1903..... | Louisville, Ky..... | Steele Bailly, Stanford, Ky. |
| Louisiana State Medical Society..... | April 23-24, 1903..... | New Orleans, La..... | W. M. Perkins, New Orleans, La. |
| Maine Medical Association..... | June 3-5, 1903..... | Portland, Me..... | Charles D. Smith, Portland, Me. |
| Maryland Medical and Chirurg. Faculty | April 28-30, 1903..... | Baltimore, Md..... | J. W. Lord, Baltimore, Md. |
| Massachusetts Medical Society..... | June 9-10, 1903..... | Boston, Mass..... | F. W. Goss, Roxbury, Mass. |
| Michigan Medical Association..... | June 26-27, 1903..... | Port Huron, Mich..... | Andrew P. Biddle, Detroit. |
| Minnesota State Medical Society..... | June 17, 1903..... | St. Paul, Minn..... | Thos. McDavitt, St. Paul, Minn. |
| Mississippi State Medical Association..... | April 21-23, 1903..... | Greenville, Miss..... | C. H. Trotter, Winona, Miss. |
| Missouri State Medical Association..... | May 19, 1903..... | Excelsior Springs, Mo..... | E. J. Godwin, St. Louis, Mo. |
| Montana Medical Association..... | —, 1903..... | Lincoln, Neb..... | B. C. Brooke, Helena, Montana. |
| Nebraska State Medical Society..... | May 5-7, 1903..... | Concord, N. H..... | A. D. Wilkinson, Lincoln, Neb. |
| New Hampshire Medical Society..... | May 21-22, 1903..... | Asbury Park, N. J..... | G. P. Conn, Concord, N. H. |
| New Jersey Medical Society..... | June 23-25, 1903..... | E. Las Vegas, N. C..... | W. J. Chandler, South Orange, N. J. |
| New Mexico Medical Society..... | May 13, 1903..... | New York City..... | J. F. McConnell, Las Cruces, N. M. |
| New York State Medical Association..... | October 21, 22, 23, 1902..... | New York City..... | G. D. Lombard, New York City. |
| N. Carolina, Medical Soc. of the State of | —, 1903..... | Hot Springs, N. C..... | J. Howell Way, Waynesville, N. C. |
| North Dakota Medical Society..... | May, 1903..... | Bismarck, N. D..... | E. C. Branch, Wheatland, N. D. |
| Ohio State Medical Society..... | May, 1903..... | Dayton, O..... | F. M. Foshay, Cleveland, Ohio. |
| Oregon State Medical Society..... | September —, 1902..... | Portland, Ore..... | A. D. Mackenzie, Portland, Ore. |
| Pennsylvania Medical Society..... | Sept. 16-18, 1902..... | Allentown, Pa..... | C. L. Stevens, Athens, Pa. |
| Rhode Island Medical Society..... | September 4, 1902..... | Newport, R. I..... | S. A. Welch, Providence, R. I. |
| South Carolina Medical Association..... | April 15, 16, 1903..... | Sumpter, S. C..... | A. B. Knowlton, Columbia, S. C. |
| Tennessee State Medical Society..... | April 14-16, 1903..... | Nashville, Tenn..... | D. J. Roberts, Nashville, Tenn. |
| Texas State Medical Association..... | April 12, 1903..... | San Antonio, Texas..... | H. A. West, Galveston, Tex. |
| Vermont State Medical Society..... | October 9, 10, 1902..... | Burlington, Vt..... | G. H. Gorham, Burlington, Vt. |
| Virginia, Medical Society of..... | September 23-25, 1902..... | Newport News, Va..... | L. B. Edwards, Richmond, Va. |
| Washington State Medical Society..... | —, 1903..... | Spokane..... | A. H. Coe, Spokane, Wash. |
| West Virginia Medical Society..... | May, 1903..... | Charle-ton, W. Va..... | W. W. Golden, Elkins, W. Va. |
| Wisconsin State Medical Society..... | —, 1903..... | Milwaukee, Wis..... | Charles S. Sheldon, Madison, Wis. |
| Wyoming State Medical Society..... | —, 1903..... | Rock Springs, Wyo..... | Harry S. Finney, Rawlins, Wyo. |

(Continued from p. xiv)

number of insertions which should be made there is some diversity of opinion. The English and continental practice, or wherever arm-to-arm vaccination is the rule, is to vaccinate in several places—four or five, or even more—and often on each arm. It is probable that the custom arose out of the desirability of securing as many vesicles, which could be tapped, as possible, and that the question, originally, had an economic rather than a protective importance. Jenner's early rule was to make only one insertion; but as he laid much stress on the necessity of preserving the vesicle intact throughout all its stages, it became necessary to multiply the number of vesicles in order to procure a supply for the arm-to-arm process. Subsequently, the oft-quoted table of Marson, supplemented by that of the London smallpox hospitals and one by John Simon, seemed to establish a connection between the number of vesicles and the protection conferred. On the whole, however, there is reason for believing that the quality of the vaccination is of much more importance than its quantity, as measured by the number of vaccinal scars. It is at least certain that the first vaccination performed by Jenner and his immediate disciples, proved amply protective, although they consisted of single insertions 'by means of a very slight scratch, not exceeding the eighth part of an inch, or a very small oblique puncture.' Jenner, indeed, distinctly says that 'a single pustule is sufficient to secure the constitution from the smallpox; but as we are not always certain the puncture may take effect, it will be prudent to inoculate in both arms, or to make two punctures in the same arm about an inch and a half asunder, except in very early infancy, when there is a great susceptibility of local irritation.' The writers continue: "There is no obvious physiological or pathological reason for the claimed increase of protective power through an increase in the number of vesicles. The figures compiled by Marson, MacCombie and Simon, which are relied on to prove such relation, are more philosophically explained by assuming, as is self-evident, that the chance of obtaining at least one perfect—and therefore, fully protective—vesicle is increased by the multiplication of the number of vesicles. But this is to confess to carelessness or imperfection on the part of the vaccinator which needs to be corrected by using a blunderbuss instead of a rifle. In the thirty odd years' experience of the writers, with exceptional facilities for observation, it has been found that post-vaccinal smallpox is fully as frequent, in proportion, among those vaccinated in countries where the rule of multiple insertions obtains, as among those presenting single well-marked cicatrices; and that neither the one nor the other is to be relied on to the neglect of revaccination."

My own observation on vaccination in relation to smallpox, begun in 1893 and continued to the present time, leads me to believe that vaccination is more certainly protective against smallpox than the figures of most of the records we get will warrant. The fault of most of these records is that they are based on the statement of the patient that he has been vaccinated. An examination of the arm will disprove this statement in a majority of instances. The records are often made by the nurse who accepts the patient's word as fact. Any one who has had experience with smallpox knows how unreliable the patient's statements are. Ask a hundred patients if they are vaccinated and nearly every one will say yes. Examine their arms and tell them you see no mark, and they will reply that they were vaccinated but that it did not take. Of course, this is no vaccination at all.

To most persons a vaccination and an attempt at vaccination is the same thing. People say they have been vaccinated whether the operation is successful or not. Had we not examined the arms of the 591 cases of smallpox in the Chicago Isolation Hospital, but taken the word of the patient for the vaccinal status, more than half of them would have been recorded as vaccinated. And again, any scar at the site of an attempt at vaccination has been recorded as a vaccination. We have done this at the Chicago Isolation Hospital so as to be fair and avoid the charge that we were manufacturing statistics, though we feel sure some of these are scars from infection and not from vaccine. Again, recording, as before mentioned, cases as vaccinated who were vaccinated after exposure, but too late to prevent the disease, have worked injury to the truth about vaccination. A close examination of all arms by experienced physicians will eliminate these sources of error which, in the past, have been recorded as truth, to the great detriment of accurate information on the subject of vaccination. (Continued in next number.)—HEMAN SPAULDING, M.D., Chief Medical Inspector, Dept. Health, Chicago, in *Jour. Amer. Med. Assoc.*

SWEET SOUNDS.—

You may praise the songs of Homer,
Chirp the notes of Jenny Lind,
You may even list in fancy Gilmore's Band.
You may joy with gay canary
Or the nightingale in glen,
But there's one note yet much sweeter to command.

Hear the mellow chords of sweetness
From Blind Tom's piano strands,
List the strain from Stradivari's violin,
But to me above these echoes
There in life and sweetness stands
Just one sound that's really worth the ears of men.

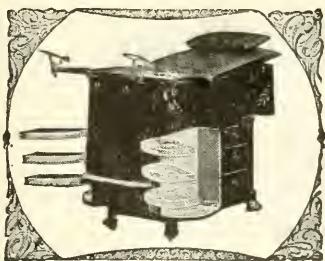
Oh how often at the bedside
In obedience to the call,
Have I tired and sleepy waiting, waiting been.
Oh, how filled my soul with rapture
When I heard that deafening squall.
'Tis the note that brings us in a note for ten.

'Tis a woman's cry in labor,
As she feels the last great pain.
'Tis the yell that brings to end a mother's dread.
'Tis the voice that tells the doctor
That his waiting's o'er again,
And he may on Morpheus' bosom rest his head.
—Dr. A. Dudley Bunn, in *Alkaloidal Clinic*.

Then the daddy proud and happy, just as if he'd
done it all,
Dives into his breeches' pocket for that ten,
And the mother weakly murmurs, "Heaven bless
you doctor dear."
And you tell them all how glad you'll be to shortly
come again!
Which turns the whole caboodle pale with fear.

Then just as you are settling in your comfortable
bed,
With a heart at peace with all the world of men.
A thundering peal arouses you, and these sweet
(?) words are said:
"Git up, Doc, old Swipesy's got the jim-jams bad
again."
—Ed. *Alk. Clin.*

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MEMBRANOUS COMPLICATIONS

Under the above heading, Walter M. Fleming, A.M., M.D., New York City, states in the September number of *The Medical Era*: "With all the experience of more than a quarter of a cen-

tury, in the treatment of winter-cough, and its complications of laryngeal, bronchial, and pulmonary irritability, also dyspnea, asthmatic spasms, and finally whooping-cough—usually the most persistent and tenacious of all of these membranous maladies—I find no one remedy more strongly indicated, or which yields more prompt and satisfactory results than Antikamnia & Heroin Tablets, composed of antikamnia, 5 grains, and heroin hydrochloride, $\frac{1}{12}$ grain. The purpose of this combination is manifest at once, for it provides primarily a respiratory stimulant; secondarily, a soothing sedative to the irritable mucous membrane, and thirdly, an antipyretic and analgesic. Result: A prompt and efficient expectorant, which at once relaxes the harsh and rasping cough, and releases the tenacious, sticky, and gelatinous mucus, while its soothing influence is at once manifested, greatly to the comfort and contentment of the patient."

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No. 12

An International Language

THE question of an international language has been agitating the intellectual world for many years, and as nothing is settled until it is settled right, so this question will continue to come up until it has been finally and satisfactorily solved. That the introduction and acceptance of a universal language would be a great boon is unanimously admitted by all scientists, business men, and students in general. It would not only tend in a remarkable manner towards the progress and popularization of science and literature, but it would accomplish something more: it would contribute toward the unification of all nations and races; it would diminish chauvinism and jingoism, and thus aid in the establishment of the universal brotherhood of mankind. The importance, then, of an international language is admitted by all who have given the subject any thought. An insurmountable difficulty seems to loom up, however, as soon as the question is broached as to *which* language is to be selected to the high and honorable position of the universal tongue of mankind. The three dominant languages of the present day are English, French and German. Everyone recognizes that it would be a wonderfully good thing if one of these languages were selected for an international one. Two birds would be killed at one shot. The acquirement of such a language would mean not only familiarity with the universal medium of communica-

tion; it would also mean familiarity with a magnificent, many-sided literature, with a nation—or nations—that has made a great record in history and that occupies a commanding position in the world of politics, science, industry and commerce. But just as everyone recognizes the desirability of any of those languages becoming the universal language, so everyone recognizes the impossibility of this ever being the case. The prestige and the political and commercial supremacy that the selection of the English, French or German language would give to the respective nation would be so great, that the other two nations would *never* agree to it. French and German would, besides, be unacceptable to many, on account of the extreme difficulty of their grammar, especially the syntax. Of the two the greater opposition would be made to German.

The three chief living languages being out of the question, there remain three ways out of the dilemma: (1) the selection of a dead language, (2) the manufacture of a new language, (3) the selection of a living but subordinate language. The question of the selection of a dead language, Latin or Greek, may be dismissed in a few words. The idea is chimerical. Both languages are too complex, their grammars are too difficult, their literatures are of too limited a character both in quality and in quantity, and they are too poor in words for the ex-

pression of modern things and modern ideas, to repay anybody for the trouble of learning them thoroughly enough to converse in them. Only hobbyists and faddists—people who see things in a distorted light, or rather in the light in which they wish to see them—can entertain the idea of Latin or Greek ever becoming an international language.

We now come to the subject of an artificial language. The idea is a fascinating one and is not a novel one, either. As long ago as 1668 Wilkins proposed an artificial language. We have, further, the languages proposed or evolved by Leibnitz; by Letellier; by Sotos Ochando, who in 1858 received the first prize from the Paris Linguistic Society; by Dr. Samenhoff, who named his language Esperanto; by pastor Schleyer (*Volapük*), and finally the blue language proposed by Mr. Bollack. The beauty, or rather the practical advantages, of a new artificial language are its perfect simplicity and regularity. No exasperating, torturing, irregular verbs, no ridiculous genders in inanimate objects (*der Teller, die Gabel, das Messer*), no exceptions to rules and exception to exceptions, no crooked, logically absurd sentence constructions—none of these barnacles which have accumulated during the centuries. It is like the newly laid-out and carefully planned cities of the New World. None of the narrow, crooked passages and blind alleys of the ancient cities of the Old World. In the grammar of Esperanto, for instance, there are altogether 16 rules, while the vocabulary is reduced to about a thousand roots; and from these by a simple process of derivation, it is easy to form words for the expression of every possible shade of thought. It is also claimed to be harmonious (in which respect it differs from the easy but horribly sounding *Volapük*). Mr. Bollack's "*Langue Bleue*," or blue language, also seems to be of remarkable simplicity.

But all of the artificial languages, in spite of their simplicity and regularity, possess one great disadvantage, which is even more marked than in the case of dead languages—they have no literature. Of

course, the adherents of a new language claim that no sooner would a language be adopted as an international medium of communication, than books would at once begin to be written in that language; but we, for ourselves, think that a language is an organic growth and cannot be manufactured in a day within the four walls of a savant's study room.

There remains the third way: the adoption of a subordinate language. On this point we have but one preference: we are unequivocally in favor of Spanish as the international tongue. As a world power Spain is irrevocably and forever out of the question. International jealousy is therefore not a factor. And the language is the sweetest, simplest, most harmonious, and one of the easiest to learn. Its irregular verbs present some difficulty, but not as much as those of other languages, and even that difficulty could be smoothed away—by making all verbs regular—should it be selected as an international language. Its literature is one of the richest and noblest in the world. For all these reasons, Spanish commends itself as the most appropriate of all living languages. But which ever language is selected is of minor importance. The important point is to agree upon one language to serve as a medium in science, commerce and general intercourse—and the wide-reaching significance of such a step is hard to overestimate.

This article would be incomplete if we failed to mention that there are many thoughtful people who think that an international language will come about by itself, without our efforts, as a matter of natural evolution. And the preponderance of opinions is in favor of English being that language. Prof. Schröer, for instance, says—and with this we will conclude our editorial:

"A world-language already exists; that is, a language which by its extension over the whole globe and by the ease with which it can be learned, has obtained such a foothold that nothing can prevent it becoming in the near future the great means of international communication. This language is English."

[Written for MERCK'S ARCHIVES]

A MONOGRAPH ON THE USE OF CINNAMIC ACID AND SODIUM CINNAMATE IN THE TREATMENT OF TUBERCULOSIS

By William J. Robinson, M.D., New York

(Continued from page 265, July issue)

LITERATURE

IN all, about eighty publications have appeared in the world's medical literature on the treatment of tuberculosis with cinnamic acid and sodium cinnamate. I have taken pains to read all the important papers in the original, in order to gain an unbiased impression of the results obtained by all those who gave the remedy a trial. I did not care to base conclusions on abstracts which, unless made carefully by a competent and unbiased person, often give an incomplete or even distorted idea of the author's original results and conclusions.

By far the greater number of the papers that have appeared are in the German language, so that we shall review the German publications first. One is struck, in reading the various reports, not so much by the contradictory results detailed therein—this is the case with most new remedies—but by the actual animus that pervades most of them. There seem to be two parties: a pro-cinnamate and an anti-cinnamate party, and the discussions frequently assume a warmly polemical character. This, of course, is very unfortunate as it obscures the issues and renders the arrival at definite conclusions so much more difficult.

LANDERER (for bibliography, see end of article) reports results in 110 unselected, consecutive cases. He divides these into four groups. To group I belong the mild unadvanced cases, with no fever and in fair general condition. Forty cases belonged to this group, and the result was 85 per cent. of cures, 5 per cent. of improvements; unimproved, 10 per cent. To group II belong cases with more or less advanced tuberculosis, with cavities and considerable emaciation, but no fever. In the 29 cases belonging to this group there were 44.8 per cent. of cures, and 41.5 per cent. of improvement. The cavities disappeared in 9 cases, "dried up" in 2, and remained unchanged in 2. To group III belong cases with advanced pulmonary changes, emaciation and continuous fever; of the 24 cases embraced there were 37.5 per cent. of cures, and 29.2 per cent. of improvement—a total of 66.7 per cent. favorable results. To group IV belong the cases of acute or galloping consumption. Of the 17 cases, 1 was cured and 5 improved—a total of 36 per cent. of favorable

results. Adding the results in the four groups, we find cures and improvement in 75.4 per cent. of all the cases. In his latest publication, Landerer puts his favorable results at 70 per cent.

Many of his opponents reply that such favorable results—70 per cent. of combined improvement and cure—are generally obtained in all well-regulated and favorably situated sanatoria, in which no cinnamic-acid treatment is used; that it is consequently the fresh air, the nourishing diet, the strict régime, etc., to which the favorable results are to be ascribed, and not the sodium cinnamate. In rebuttal, Landerer gives the results of 34 cases of pulmonary tuberculosis, treated in private practice or as dispensary patients who did not enjoy the advantages of a sanatorium. Of these, 3 died; but two cases were so far gone that their cure was an absolute impossibility. The third case died of a secondary meningitis. Ten patients, in five of whom the disease was very severe, improved; and 21 cases, of whom several had cavities, were completely cured (61.7 per cent.) Landerer, therefore, insists that even in ambulatory cases the treatment will give good results.

Of 20 cases of *intestinal and peritoneal tuberculosis* treated by Landerer, 16 were cured (!), 1 improved permanently, 1 temporarily, and 2 died. Of 18 cases of *tuberculosis of the lymph-glands*—some had fistulae and been operated on several times—17 were cured, and 1 improved. In his cases of *surgical tuberculosis* the results were as follows: 82.1 per cent. of cures; 12.8 per cent. of improvements; 2.5 per cent. of deaths. In 2.5 per cent. of the cases amputation had to be resorted to.

KROKIEWICZ reports on 43 cases of *pulmonary tuberculosis* that were treated with sodium cinnamate at the St. Lazarus Hospital in Cracow. Eighteen of those cases received in addition hypodermic injections of small doses of arsenic. One case, the author says, was cured. Both apices were affected, the temperature was but slightly above normal. The treatment lasted forty-six days, during which period the patient received 23 injections, the highest dose injected being 1 Ctg. ($\frac{1}{16}$ grn.). There were no night-sweats, the temperature was normal, the physical signs disappeared, the sputum was free from bacilli. A second examination, made three months later, revealed the same satisfactory condition. We would be more satisfied, however, if the second examination had been made, say, a year later, as temporary improvements occur in cases of tuberculosis under any treatment. Five other cases showed considerable improve-

ment, but in 2 there was a return of all the bad symptoms. Eighteen cases showed little improvement or ended fatally. Altogether there was improvement in 30.2 per cent. The author warns against the use of the remedy except in the early stages of the disease.

NIEHUES reports in 66 cases of *surgical tuberculosis* that were treated with sodium cinnamate, and locally with a mixture of iodoform and hetocresol. The result was as follows: 13.5 per cent. of deaths; unimproved, 18.5 per cent.; improved, 24 per cent.; cures, 41 per cent. There was generally an improvement in the appetite and increase in body-weight. The fever, however, was not influenced.

R. HUMBERT, of Davos, is very enthusiastic about the results of sodium cinnamate in the *pulmonary* variety. He reports on 28 cases of the first, second, and third stages, and states: All the consumptives of the sanatorium who were not treated with the injections made uniformly slower progress towards improvement than those who were so treated.

C. A. EWALD reports 25 cases, the results not being favorable. The duration of the treatment varied from 18 to 316 days. Only 3 cases showed an improvement more marked than can usually be seen in the hospitals under ordinary hygienic treatment. No disagreeable by-effects followed the injections. The tendency to hemoptysis seemed to be increased; the temperature and night-sweats were unaffected. The author, however, does not wish to draw any final conclusions, and advises a further trial of the remedy.

F. FRÄNKEL, of Erb's clinic in Heidelberg, presents very unfavorable reports of 17 cases; 5 were much advanced and the poor results were not surprising; but of the 12 other cases, treated for periods of from five to seven weeks, 3 died, 1 became worse, 3 remained stationary, and a slight improvement was noticed in 5. The tendency to hemoptysis seemed to increase under the treatment.

P. PIRL reports 13 cases from the Charlottenburg Hospital. The patients were rather in an advanced stage, and the results were unfavorable.

H. GUTTMANN reports 33 severe cases treated in one of the Berlin polyclinics. Almost all had *laryngeal tuberculosis besides pulmonary*. One was cured, 10 were improved, 9 showed no improvement, 8 died, and 5 discontinued the treatment prematurely. He also reports 2 patients of Prof. Krause who were cured. Of 102 cases in his private practice, 22 were cured and 21 improved. Histologic examinations of tis-

sue from tubercular larynges, subjected to the treatment, proved conclusively the correctness of Landerer's statement that the drug produces a general leucocytosis, and by means of a wall of leucocytes cuts off the tubercular foci. Summarizing the literature of the subject, Guttman says that the majority of observers report an improvement even after a few injections; that the cough, expectoration, and night-sweats are lessened; that the appetite increases and the patient gains in weight; that too large a dose may cause hemoptysis, but with care no untoward effects should be noticed; and that the patients may be treated at their homes, but better results will be obtained if the treatment is pursued in an open-air sanatorium. The author does not conceal the fact that his results were not particularly good, but states that his dispensary patients were very unfavorable. Landerer himself would not have considered them proper subjects for his method of treatment. He advises further trial of the drug.

H. STAUB considers cinnamic acid or its combinations a perfectly indifferent remedy. He denies that it possesses the power to increase leucocytosis, and considers it worthless or even injurious in the treatment of tuberculosis.

R. HESSEN, from his results in private practice, is very much in favor of the cinnamate treatment.

VULPIUS observed chills, high fever, and other severe systemic disturbances, and therefore discarded the treatment with sodium cinnamate entirely.

GIDJONSEN records 12 cases, treated at the Falkenstein Sanatorium, in which an improvement could confidently be looked for, if sodium cinnamate had any curative value in tuberculosis. In not one case was a favorable result noticed. He observed no distinctly injurious effects, but in some cases the general condition seemed to be getting worse, and there was loss of weight. He denies that the drug has the least favorable influence on *laryngeal tuberculosis*.

WOLFF, of Berlin, treated 42 patients, most of them mild, uncomplicated cases, with *intravenous* or *gluteal injections* of sodium cinnamate. There was no improvement in the local condition in any of the cases, though the doses and the technique, etc., were strictly according to Landerer's teachings.

R. WEISSMANN, of Jena, treated 48 cases of tuberculosis, 44 of which were *pulmonary*. Seventeen discontinued treatment too soon to permit of any judgment pro or con. Of the remaining 27 cases, 16 were in the initial stage and the author now con-

siders them as cured. The remaining 11 cases were more or less advanced, and some had cavities. The treatment here lasted from three to six months. Five were cured, 2 were improved, and 4 died. The author also briefly reports 1 case of cured *bone tuberculosis*, and 2 cases of *glandular tuberculosis* also cured. This report is certainly one of the most favorable that have appeared on sodium cinnamate.

C. HÖDELMÖSER records 18 cases of tuberculosis—16 *pulmonary*, 1 *pulmonary* combined with *bone tuberculosis*, and 1 *peritoneal*. Seven cases were treated as dispensary patients, and the duration of the treatment varied between one and six months. Favorable results were obtained in 22.2 per cent. of the cases.

POLLAK reports 48 cases of uncomplicated *pulmonary tuberculosis*, the material being unselected. Favorable results were obtained in 87.5 per cent. of the cases. This is a very high percentage, but the author says it is not essentially higher than the percentage of improvements obtained in sanatoria without the sodium-cinnamate treatment. He further reports on 8 cases of *pulmonary tuberculosis* complicated with *laryngeal tuberculosis*. Two were improved under sodium cinnamate alone; 1 was treated in addition with lactic acid and also improved; in 5 cases there was no improvement. Four cases of *pulmonary phthisis* complicated with *intestinal tuberculosis*, and 1 case of pure *intestinal tuberculosis* were also treated with sodium cinnamate, but without any results. It is perhaps noteworthy that in 1 case tuberculosis of the intestines began to develop after the treatment with sodium cinnamate had been going on for a month. The patient had infiltration of the right apex, but general condition had been good. There was no fever, no intestinal symptoms. Is it possible that the injections produced a dissemination of the tubercle bacilli? The patient was dismissed unimproved after being treated for six months.

HOLM reports 9 cases in which, under treatment lasting from two and a half to three months, he obtained excellent results in 5 cases.

SOLOMON reports 24 cases in which the results were fairly satisfactory.

HAENTJENS, after treating 13 cases, expresses the opinion that sodium cinnamate, combined with dietetic and hygienic measures, will accomplish more than the latter alone.

RYS treated 60 cases with sodium cinnamate, and is very enthusiastic in his report. In cases of incipient *phthisis* the results were brilliant, but even in those advanced

an unmistakable improvement took place. In *hemoptysis* the author continued the injections and saw no injurious results. This is in contradiction to Landerer's experience, who states that whenever *hemoptysis* is present or threatened, the cinnamate injections are distinctly contraindicated. Only in galloping consumption and in caseous pneumonia the author advises against the use of the remedy. After the first few injections the patients experience a "sticking" pain in the chest, which the author explains as due to the reactive inflammation around the tubercular foci; but this pain soon disappears and the patients feel subjectively better; the sputum also loses its thick purulent character.

KATZENSTEIN believes that the sodium cinnamate treatment of *pulmonary tuberculosis* has not received the attention it deserves. He uses no drugs besides the sodium cinnamate, which he administers by *intramuscular injection* into the middle third of the triceps muscle. No abscesses have ever followed the injections in his experience. The number of injections required to effect a "cure," varied between 20 and 72, extending over a period of from two to six months. Dosage was up to $\frac{1}{20}$ grn., or 5 min. of a 1-per-cent solution, for children, and up to $\frac{1}{4}$ grn., or 5 min. of a 5-per-cent. solution for adults. More than $\frac{1}{2}$ grn. was seldom needed.

The results were highly encouraging, especially in incipient *phthisis*, the author having obtained a number of complete cures and very many improvements. He considers the method a blessing to all those who cannot or will not completely abandon their occupation.

A. KÜHN reports 11 cases, in none of which has anything approaching a cure been noticed. He admits, however, that all his cases were advanced and most of them complicated. Landerer's explanation of the *modus operandi* of sodium cinnamate is, the author states, not substantiated, and the true explanation has still to be determined.

J. M. WHITE (in MERCK'S ARCHIVES, Aug., 1899) reports briefly two cases, one of *miliary tuberculosis*, another of *galloping consumption*. Both, of course, ended fatally, but the author is sure that there was considerable improvement in the patients while under the treatment. In his opinion "sodium cinnamate is a remarkable remedy."

A. V. MOSCHOWITZ reports 11 cases treated with cinnamic-acid emulsion. He says: "Notwithstanding an exact observance of Landerer's directions, my results are not correspondingly good." Two of the cases died, 3 admit of no opinion, and 6

showed material improvement. But on analyzing carefully these six cases, we find that the improvement was temporary, in some cases questionable, and such as we generally observe under any method of treatment and often under no treatment at all. A personal inquiry addressed to the author a few days ago elicited the answer that he has not used cinnamic acid or sodium cinnamate in a long time: first, because his practice was now more of a surgical character; and, second, because "it is very difficult to form a positive opinion of the usefulness of the drug."

In this country ALFRED MANN has probably had more experience with sodium cinnamate than any other physician, and has published several papers on the subject. He is distinctly favorable to sodium cinnamate, but admits that most cases derive no benefit from the treatment. His conclusions are as follows: "My experience with sodium cinnamate in the treatment of consumption has given me a favorable impression of its effect. I think I have good evidence that it will quicken to a marked extent the healing processes when they are sluggish or altogether inactive in some, though not in all, of the cases. Most of my experience in its use has been with rather severe cases, and the art of prognosis is here proverbially difficult. Yet it seems to me that the results have been very encouraging; that is, better than they would have been without it, and I shall continue to use it *in addition* to the other good methods that are available and that ought not to be neglected in any case."

In his latest paper on the subject he gives the report of 7 cases, 6 of *pulmonary tuberculosis* and 1 of *acute tubercular swelling of the lymphatic glands*. There were 2 apparently complete recoveries, and 5 very marked improvements. In one case a fatal termination seemed certain, and the sodium cinnamate did not appear capable of stopping the ravages of the disease. But a severe attack of smallpox supervened, and this attack seemed to destroy the virulence of the tubercular infection. The sodium cinnamate injections were then resumed, and under their effect the râles and other evidences of disease in both lungs largely disappeared.

O. AMREIN, of Arosa, Switzerland, gives in detail the results obtained by him in 13 cases which he treated during the years 1899-1901. The injections were made strictly according to the rules laid down by Landerer. The initial dose was always $\frac{1}{60}$ grn. The injections were made every third day and increased very gradually until $\frac{1}{3}$ or $\frac{5}{12}$ grn. were reached. Positive success was obtained in 4 cases out of the 13, but

the author says that as all patients were treated in high altitudes, "it is quite impossible to say whether these results were caused by the injections or not, and whether they could not have been obtained by the climatologic and dietetic treatment alone." He had similar results in cases that were not treated by sodium cinnamate. No harmful influence from the injections was ever observed, either on the local state of the lungs or on the patient's general health. There was never any inflammation at the site of injection. The doctor concludes: "I never could see any positively good effect which I could not explain myself by the climatological (altitude) and hygienic and dietetic treatment."

LOVEL DRAGE reports the case of a man of sixty who was "apparently dying from tuberculosis of the lungs." Under the injections he ceased to lose weight and the expectoration was reduced in amount. What the further course of the disease was the author does not state. He also reports a case which he *thinks* was cancer of the pancreas, another of chronic mischief of the middle ear, and a third of laryngitis, "almost certainly tuberculosis," in which the injections seemed to do some good. The preparation used by him was a 10-per-cent. solution of sodium cinnamate in glycerin; 15 to 30 min. was the dose injected.

In the Russian literature the same contradictory reports occur. Drs. LOVSKY, GORTCHARENKO, and VASSILENKO are in favor of the treatment, while GJIDEV and FINKELSTEIN are very much opposed to it. The latter treated 20 cases in a sanatorium, and the results were described as quite unsatisfactory.

The French literature on the subject is very meager. In a thesis on the subject by Mlle. N. AZMANOVA the experimental results did not quite tally with those of other experimenters; the clinical results were satisfactory. She also gives therein the results of EXCHAQUER (Sanatorium Leysin) on 30 patients, his opinion being very favorable to sodium cinnamate.

S. BERNHEIM expresses himself as favorable to the sodium cinnamate treatment.

AUTHOR'S CONCLUSIONS

From a very careful study and analysis of the literature of the world, and from my own impressions, I feel justified in making the following conclusions:

(1) To regard sodium cinnamate as a specific in tuberculosis is absurd. Neither Landerer nor the most ardent of his disciples, Cantrowitz, claims it to be such, and only those who have not given the subject

any study can bestow upon the drug such a title.

(2) The drug is probably a useful adjuvant in the treatment of tuberculosis in the first stage.

(3) The doses must be small to begin with, and must be increased very gradually. This is a very important point, on which Landerer insists with particular emphasis. He and Cantrowitz ascribe most of the bad results reported by other investigators to the fact that they used too large doses.

(4) The drug is contra-indicated in cases inclined to hemorrhages, or too soon after a hemorrhage.

(5) It should not be used when the temperature is above 101° F.

(6) Should a rise of temperature follow an injection it is evidence that the dose was too large, and the next dose should be diminished to three-fourths or one-half.

(7) Prof. Landerer is a reliable and trustworthy observer, and there is not the slightest justification for mistrusting his statements and reports. But it must be borne in mind that practically similar results are now obtained in most high-class sanatoria where sodium cinnamate does not enter into the treatment.

(8) The treatment with sodium cinnamate is harmless, provided it is practised strictly according to the rules laid down by Landerer. Too large doses may, by causing an excessive serous exudation—leucocytosis—around the tubercular foci, carry some tubercle bacilli into the circulation.

(9) Given by mouth, the dose of sodium cinnamate may be quite large, 2 or 3 grn. Whether it has any influence on the tuberculous process when thus administered, remains to be shown. Cantrowitz is very skeptical in this respect. He says that when given per os it is probably eliminated in the urine, perhaps in the form of hippuric acid.

(10) Taken all in all, my impression of sodium cinnamate as a *curative* agent in tuberculosis is a negative one. It is probably useful symptomatically, but even here I prefer creosote and its derivatives.

It is a more grateful task to report favorably upon a drug; but what the profession and humanity need are unbiased, truthful reports and impressions, whether favorable or unfavorable.

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HOME TREATMENT FOR THE MORPHINE HABIT

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ONE who thoughtfully studies the advertising pages of current magazines and newspapers may find therein a key to the needs and desires of the multitude more intimate and accurate than he can obtain from any other source. No sane man will maintain an advertisement of a cure for the morphine habit in a dozen or more expensive publications, paying therefor thousands of dollars yearly, unless there is a large and profitable demand for his wares. A little analysis reveals the fact that every one of these advertisements, no matter what are the other promises held forth, engages to cure the sufferer *at home, secretly, and without suffering.*

The reiteration of these promises is significant. The large number of such advertisers proves the widespread demand for relief. Why do so many sufferers resort to the charlatans instead of to their well-known and reliable family physicians? Is it not because we fail to offer them what they demand? What encouragement does the average doctor offer to such patients? If, as most of us do, he follows the guidance of the "authorities" he must say that the cure of this habit is difficult under any circumstances, and almost impossible unless the patient is willing to submit to the control exercised in hospitals and sanatoriums. When a patient inquires how the disease is treated at those institutions, he learns that one plan, in very general operation, is to lock the sufferer up and deprive him at once and forever of his drug. He learns that great suffering ensues, such as no man can endure save under restraint; that convulsions and insanity, and even death, have resulted from the treatment. Turning from this plan to the only other, he is told that the drug is withdrawn gradually; that much restlessness and discomfort ensue, but that finally he can learn to do without it. When he asks if the desire for it will be permanently eradicated, he hears that a large percentage of such patients return to their slavery. Finally, he knows that it would be impossible for him to go to any institution for treatment, without the knowledge of a prying neighborhood. The prospect is not inviting, and when compared with the specious advertisements above referred to, shows to bad advantage. So he writes to the charlatan, is bombarded

with letter after letter, with testimonials from almost the very saints, and then he takes the advertised treatment, loses his money and his hope, and his last state is worse than the first.

The extent of the morphine traffic is enormous. Not only do many druggists sell it, but in some parts of the country the cross-road stores keep it for their customers, who provide themselves therewith as regularly as with flour. A large majority of the users would be glad to be enabled to stop it. They have unconsciously drifted into a dependence upon it on account of some derangement which it relieved. Rheumatic pains and neuralgia are the principal causes; and our carelessness in prescribing opiates and allowing the prescription to be refilled indefinitely, is a prolific source of mischief. After the original pains have disappeared the user finds that as soon as he stops taking morphine, other pains, as unbearable as the first, demand narcotics for relief. These pains are not imaginary, but real, caused by the condition of the blood, and indeed of the whole system, after a long period of insufficient elimination.

It is our duty to meet and overcome this menace to our civilization, and could our patients be assured of "home treatment, secrecy, and cure without suffering," they would gladly come to us for relief. The object of this article is to call the attention of the profession to certain measures which, properly adapted, will almost certainly accomplish this much desired end. It has long been a reproach to the profession that too many of us entail upon patients an obstinate habit, which we cannot cure without imposing conditions too severe or too noticeable to be accepted. This condition of affairs is not necessary. Patients can be and have been relieved privately and without notable discomfort, from a degree of subjection to the habit that was degrading. True, there are conditions necessary to success; but when they prevail, as is generally the case where patients apply for relief, the physician can confidently promise a cure that will be permanent.

The first essential is a sincere desire on the part of the patient to be freed from his slavery. This does not always exist. Certain cases will come asking to be enabled to reduce their dosage to a certain point only. These might as well be dismissed at once. It is also true that now and then a user is found who has apparently reached his limit, and for years will consume two or three grains a day, and no more. Such cases, among Caucasian races, are very rare however. When one comes despondent but

in deadly earnest, we can save him, provided there is no other pathological element present to prevent. Next, there must be some one, nurse, friend, relative or whoever is available, who is sensible enough to carry out your orders, and not too wise, in his own conceit, to realize that our judgment in the matter is better than the patient's or the nurse's. Third, the doctor must be competent, and that means a great deal. He must be able to gauge the condition of the patient and understand his needs. He must know the pathological possibilities, and have at his command every weapon in the *materia medica*. Above all, he must be able completely to win the confidence of his patient, so that whatever he asserts is accepted as absolute truth.

Given these premises, and the conclusion is success. The first step is the examination of the patient. Readers who have access to the Transactions of the Medical Association of the State of Alabama for 1902, can read therein the statements and suggestions of Dr. Geo. E. Pettey, of Memphis, Tenn., wherein he elaborates a plan of treatment successfully pursued by him at his sanatorium. Many of the ideas in this article are imbibed from him, and engrafted upon other and familiar methods; but he requires sanatorium or hospital environments that deter numbers from benefiting by his skill. He calls special attention to the effects of effete material retained in the body by the agency of morphine. He also emphasizes the importance of suggestion in the treatment. The preliminary examination, therefore, should be thorough and impressive. The stethoscope, microscope, urinometer, and test-tubes should be used, not only for the sake of the information to be gained, but also for the influence they exert upon the patient. He sees that you understand the use of the instruments required in scientific work, that you are careful and thorough; and he will be prepared to yield you that complete confidence which is indispensable to your success.

These cases always suffer from constipation, though they may call it diarrhea; but the frequent discharges are mostly serous, caused by irritation of the mucosa by retained and hardened feces. The first prescription, therefore, will be a purgative. The following is suggested:

Ext. Colocynth Comp. ʒ ss
Calomel ʒ j.
Strych. Hydrochlor gr. ¼
Ext. Hyoscyamus ʒ ss

Ft. caps. No. x.

One every four hours until directed to stop.

This should be continued until the purgation is very thorough, not less than six or

eight actions being required. The next morning a Seidlitz powder is administered to complete the elimination, and when it has acted, a moderately hot bath is given and the patient put to bed.

The object of the free purgation is to remove the effete material that has accumulated in the blood and tissues under the restraining influence of the narcotic. For months or years it has been accumulating, and its toxic effects are seen in the yawning, sneezing, perspiring, and other reflex symptoms that follow abstinence from the drug. There are absolutely no lesions of tissue. The condition is a toxemia. Remove the toxins, support the system while it readjusts itself, prevent suffering meanwhile, and the cure is complete. The patient should be forewarned that the purgation would be remarkably profuse, and that after it he will experience a sensation of relief which will be the first step to recovery. The result will fulfil our promise, and his confidence will be vastly increased. Up to this time he takes his usual dose. Now, with his mind ready to believe any statement we may make, he should be told that a substitute for morphine will be given for a few days, after which he will no longer have any desire for it. The prescription would be 20 grn. of sodium bromide every two hours, dissolved in ½ oz. of water. It should be repeated until he feels inclined to sleep most of the time. Each single dose should contain about half as many grains of dionin as the number of grains of morphine that make his daily dose. Thus, for one using 12 grn. a day, the prescription would read as follows:

Sodium Bromide... 3 iv
Dionin.....gr. lxxij
Distilled Water, to make.... ʒ vj

Tablespoonful as directed.

Each dose will contain 6 grn. of dionin, equal in effect to about 3 grn. of morphine. Dionin has a powerful analgesic, sedative, and calmative effect, and is not apt to create a demand for itself in the system. The patient should be put in bed, and a dose of this mixture administered every two hours till an inclination to sleep appears; thereafter every four hours will be sufficient. Every time a tablespoonful is taken from the bottle a tablespoonful of water should be poured in to take its place, the patient witnessing the operation. He should be told that by the time the mixture gets weak he will need none at all; and its quieting effect will lead him to have confidence in the statement. Then he should be told there are many other remedies which will relieve him; that the pains and suffering are all functional, there being no actual dis-

ease anywhere; and that all he has to do is to keep quiet, sleep whenever he feels like it, and be permanently cured. It is impossible to overestimate the importance of suggestion. It is the patient's belief that he is helplessly dependent upon morphine which constitutes the most obstinate feature of the habit.

At this stage of the treatment, if the patient still manifests restlessness or discomfort, it is time to administer the most potent agency at our command, hyoscine hydrobromate. The effect of this drug is to induce a quiescent, dreamy state, somewhat like that of hypnotism, during which suggestions sink deep into the mind. Before giving it, the pulse and heart should be carefully examined, and if any symptoms of weakness are found a dose of sparteine sulphate, $\frac{1}{2}$ grn., should be given hypodermically, and repeated every two hours till the pulse is satisfactory. Then, under the influence of the hyoscine, the patient should sink into a quiet sleep, from which he should be awakened every three hours for nourishment. The doses of the bromide mixture are now given farther and farther apart, till at the end of the third day, one dose night and morning of the regularly diluted mixture will suffice, and by the fifth day it can be abandoned. The sparteine and the hyoscine should be administered only by the physician, and this will entail frequent visits during the first three or four days, particularly the second and third. The rest of the treatment can be administered by an intelligent nurse or relative. Any threatened return of abstinence symptoms during this time should be met by the hyoscine. Different individuals are differently susceptible to this drug, some taking only $\frac{1}{200}$ grn., others as much as $\frac{1}{50}$ grn. Of course, the smaller doses should be tried first.

During its administration the physician, in conversation with the patient, should repeatedly impress the suggestion that the desire for morphine has disappeared, and that no condition will arise in future warranting its resumption.

The nourishment of the patient must not be neglected. As a rule the appetite will diminish under the bromide, but rapidly improve as that is suspended.

The entire matter can now be recapitulated in a few words: First, there is a widespread demand for the cure of the morphine habit at home, without publicity and without suffering or danger. Second, this demand is not generally met by prevailing methods of treatment as laid down in standard text-books. Third, modern therapeutics affords agents for satisfying this urgent

demand—certainly, skilfully and ethically. Finally, the writer has endeavored to indicate the means and the methods which in his hands have proved adequate and satisfactory.

In this as in all other instances, every case is a rule unto itself. The physician who is capable of differentiating, qualifying and modifying his methods to suit the individual problem, is the one who will succeed; while he who can only follow a rigid schedule of authorities, will have many failures and throw discredit upon any, even the very best, methods that can be proposed. The writer has seen the prescribed plan succeed in cases too desperate and degraded to be publicly described, and in others of only moderate degree. His final conclusion is that the most important element in every case is the urgent, overmastering desire of the patient to be liberated from an intolerable slavery.

In every case the patient's recovery would be more easily and quietly accomplished if the above treatment, or the method so successful in Dr. Pettey's hands, were administered in a well-appointed sanatorium. But there will always be a majority of cases which must be treated at home or not at all; and it is for such that the above method has been elaborated.

THE UNDESIRED AND UNEXPECTED ACTIONS OF MEDICINES, INCLUDING TOLERANCE AND IDIOSYNCRASY TO, OR ABNORMAL RESULTS FROM, ORDINARY DOSES¹

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THE subject which I have to introduce is a very large one, and the time at my disposal is short. I can not, therefore, do more than give a brief outline. In preparing this sketch, I must acknowledge my obligations to two books which gave me a great deal of information on the subject, namely: Lewin's "*Nebenwirkungen der Arzneimittel*" and Battistini's "*Rimedi Nuovi*."

Drugs may exert an unexpected action either by (1) failing to produce their usual effect; (2) having an excessive effect; or (3) having an unusual effect. In discussing the action of drugs, we must always remember it is rarely the reaction between the drug and the organism which we are considering, and an alteration in the effect may be either due to the drug or to the organism. It is necessary to insist upon the fact that we are apt in prescribing to be misled by names, and to think that what we have

¹ *Brit. Med. Jour.*, 1902, No. 2180.

administered to our patients under a certain name is always the same thing. One of the saddest cases of this is that of Mr. Myer, of Winschoten in Holland,¹ who prescribed aconitine for a patient in what he thought to be a perfectly safe dose, and as the patient complained of the effects, he took a double dose of it himself with the result that he died in the course of five hours. Nor was this fatal result much to be wondered at, because pure crystalline *aconitine* is many times as strong as the amorphous preparation. Such extreme cases are fortunately rare; but I believe it is by no means unfrequent that *cascara sagrada* fails to produce its effect because the bark has been secured from the wrong species of *rhamnus*. But even when procured from the same plant, tinctures and other preparations may differ very much in strength, according to the place where the plant is grown, and its age, especially as to whether it is flowering or not. Moreover, many plants contain more active principles than one, and sometimes these active principles are antagonistic to one another.

Another source of error is that plants may have deteriorated by keeping in the druggist's shop and so lost their original virtues; or in the hands of the purchaser they may have changed their strength or action.

I remember reading of the case of a child who was said to have died from 1 drop of *laudanum*; but this *laudanum* had been kept on a mantelshef for a considerable time and the mouth of the bottle only stopped by a twisted piece of paper, so that the original tincture of opium had become converted into a strong liquid extract by evaporation. Badly preserved solutions of *morphine* appear sometimes to undergo change, with the formation of apomorphine or some other product which gives rise to vomiting. Occasionally, the very purity of drugs may alter their effect for the worse. It was first pointed out by Prof. Leech, that artificial sodium salicylate owes its inferiority to natural salicylate, not to the presence of any impurity but really to the absence of a certain amount of methyl salicylate which exists in the natural product.

Some time ago, when prescribing *potassium nitrate*, with the view of lessening high arterial tension and arresting epistaxis, I found that the patient was immediately relieved by the use of saltpeter, which he got from an oilshop. On having the prescription made up at a chemist's with pure potassium nitrate the epistaxis began again. When he told me this, I suspected that the

ordinary saltpeter contained a small amount of nitrate; and on adding about half a grain or a grain of sodium nitrate to the 15 or 20 grn. of potassium nitrate that he had been taking, the epistaxis again ceased immediately. This result explained to me the observation made by a very old doctor who told me that although he belonged to a very gouty family, he kept away gout by taking 20 grn. of nitrate along with 15 or 20 grn. of potassium bicarbonate in a large tumbler of water every morning, and that the nitre he got from a gummaker was always better than what he got from a chemist. This was probably due to a small admixture of nitrate which tended to keep down the high tension which his gouty kidneys would otherwise have produced.

In the case of most drugs we are obliged simply to trust to the knowledge and professional position of the chemist who supplies us; but occasionally even this may fail, and it is well to be on the outlook for the possible presence of impurities. On one occasion, when seeing a patient in consultation with another doctor, I noticed a strong smell of onions and concluded that the patient had been having *bismuth* contaminated by tellurium, which rare metal gives rise to the unpleasant so-called "bismuth-breath." I soon found, however, that it was the doctor who had been taking the bismuth, and on inquiry we found that it had been obtained from one of the best firms of chemists in the three kingdoms, and the quantity of impurity was so small as to be imperceptible to chemical tests, and its presence was only detected by the still more delicate physiological test.

Alterations in the effect of drugs may depend very much upon changes in them after they had been actually swallowed. In tropical countries *quinine* is often swallowed by the teaspoonful, and a great part of this is often wasted because there is an insufficient amount of acid in the intestinal canal to dissolve it. Should, however, a patient take quinine in this way, and have several lemon squashes immediately afterwards, the citric acid in them might cause so much quinine to be dissolved and absorbed as to give rise to buzzing in the head both unpleasant and unexpected. In persons who have lived upon a vegetable diet and are accustomed to take but little salt, calomel appears only to have a slight action, but in people who take a lot of salt, or are accustomed to live upon salt provisions, a larger quantity of the *calomel* taken is converted into corrosive sublimate, and thus the medicine may have an unexpectedly violent action. An unusual amount of hydrochloric acid in the

¹ Kunkel, *Toxicology*, p. 768.

stomach may perhaps produce a like result, and this is a point to be borne in mind, because nitrohydrochloric acid and calomel are both favorite remedies in conditions of biliousness. Antimony sulphide, on the other hand, is dissolved by alkalies, and an excessive amount of alkali given along with this remedy may tend to produce gastro-intestinal irritation. This is to be borne in mind when giving compound calomel pill along with alkalies, because this pill contains antimony sulphide. Resinous drugs are insoluble in acids, but freely soluble in alkalies. This is to be borne in mind when giving resinous purgatives, such as aloes, scammony, jalap, and podophyllin; and advantage has been taken of the power of alkalies to keep the resin in solution in the old-fashioned and very useful but very disagreeable compound decoction of aloes.

The relationship of medicines to meals is very important, and, perhaps, of this no better example can be given than *arsenic* which, if taken in full doses before a meal, will almost certainly cause gastro-intestinal irritation, whereas the same dose will produce no disagreeable symptoms if taken immediately after a meal, so that the medicine becomes diluted by admixture with the food in the stomach.

Perhaps I cannot do better in introducing this subject than take a typical drug like arsenic and consider its different actions, and afterwards compare them with those produced by other drugs. A drug may act on the body (1) at the point of application, whether it be the skin, subcutaneous tissue, raw wound or mucous membrane. After its absorption it may act (2) upon any organ of the body to which it is carried by the blood. It may act (3) during its elimination upon the same parts on which it usually acts during its absorption, namely, the skin and mucous membranes, as well as another great eliminating organ, the kidneys. The action of any drug whilst circulating in the body depends to a great extent on the amount present in the blood, and this amount is determined by the difference between the quantity absorbed and the quantity excreted in a given time. If absorption be rapid and excretion slow, much of the drug will circulate; whereas if absorption be slow and excretion rapid, very little will be present in the blood at any one time. A drug may act at one time more violently (a) upon the point of application, (b) at another on the organs to which it is carried by the blood, and (c) at yet another on the organs of elimination. A large dose of arsenic taken by the stomach will irritate that organ and may be ejected by vomiting with-

out being absorbed to any extent, thus leaving untouched the organs generally as well as the channels of elimination.

John Hunter and Sir Benjamin Brodie showed that when arsenic was applied to a wound it was absorbed with rapidity and was eliminated very rapidly by the mucous membrane of the stomach, so much so that it produced inflammation of the stomach before any appearance of inflammation showed itself in the wound. But arsenic has long been used as a secret remedy in cases of cancer, and often it causes the part to slough away without having any general action, although every now and again cases of poisoning have occurred. The chief rule for avoiding any poisonous action in such cases is said to be to use the arsenical paste very strong and over a small area. If used in too dilute a form, the arsenic is absorbed; but if used very strong, it forms a local slough and is not absorbed at all.

In the poisoning by beer in Manchester the arsenic was so much diluted that it appeared to have little local action when drunk, but after absorption it was carried to the mucous membrane of the stomach and intestines, and during its elimination by these organs gave rise to sickness and diarrhea. During its elimination also by the skin it produced many cutaneous eruptions, and while circulating in the blood gave rise to neuritis, anemia, fatty degeneration of the liver, muscles and heart with muscular weakness, loss of sensibility, great pain, and a tendency to syncope. In the cases of poisoning by arsenic in beer the drug was taken in small quantity at a time, and in a state of dilution that prevented its local action on the intestinal canal; but its ingestion was so continuous that the eliminating organs could not get rid of it as quickly as it was absorbed, and so it accumulated in the organism. Exactly the reverse occurs in the arsenic-eaters of Styria. These people take a somewhat large dose at once; but they take it in a dry form so it shall not be absorbed too quickly, and the eliminating organs pass it out of the body with sufficient rapidity to prevent poisoning. It is highly probable that a small quantity may circulate in the blood for a long time before the last traces of it are eliminated. Styrian arsenic-eaters take their doses at comparatively long intervals, generally a week or a fortnight; but very minute doses regularly taken are said to have the same effect in producing plumpness and strength, and in some girls' boarding schools in Switzerland arsenic is said to be regularly put in the food for the purpose of improving the girls' appearance.

Tolerance is a condition which it is difficult or impossible to explain fully, and there are probably various kinds of it. In cases of pneumonia *tartar emetic* used to be given in 20-grn. doses without causing any vomiting. This want of emetic action may have been due to some extent to the absence of hydrochloric acid in the stomach during the febrile condition; and where tartar emetic has been given several times, rejected at first but retained afterwards, its retention may have been due to the absence of hydrochloric acid due to gastric catarrh produced by the first few doses. It is quite probable, however, that its tolerance in pneumonia may have been due partly to the altered tissue-change in this disease, which is evidenced by the absence of chlorides from the urine.

There can be little doubt that different cells of the organism have different selective powers towards drugs. This is well shown by the different reaction of different cells towards the stains employed in microscopic observation, and is evidenced in the living body by the manner in which the bones become stained in animals fed with madder. If we consider what the condition of a cell will be when a new substance is brought to it by the blood, we may form a hypothesis regarding tolerance which, even if imperfect, may help us to understand the nature of the phenomenon.

New substances will come first of all in contact with the outer part of the cell, so that the relationship of the exterior to the interior will become altered. Gradually the new substance will penetrate into and pervade the cell uniformly; and unless fresh quantities of the new substance be carried to the blood, the cell may go on almost unchanged in its functional activity. Even if new quantities are supplied to the exterior of the cell, a larger proportion of the new substance than at first will be required to produce the same relative change between it and the interior of the cell; and so it will gradually lose its primary effect, larger and larger doses being constantly required until at last the latter seem to have almost no action.

This hypothesis will help us to understand the gradual loss of effect both of purgatives and narcotics; but we must remember that complete imbibition of a cell with a new substance may alter its whole activity, although the relationships of the different parts of the cell to one another are undisturbed. In this way arsenic may tend to cause fatty degeneration and atrophy of various cells, both muscular and nervous, and to produce a series of changes which,

though very slow, may surely lead to a fatal result.

In the case of arsenic, the cumulative action which was so well observed in the Manchester epidemic was due to the constant ingestion of a larger quantity than the eliminating organs could remove. The same is the case with *mercury* and *lead*, and the sudden appearance of mercurial or lead poisoning is only caused by the accumulative amount becoming at length sufficient to produce symptoms. In the same way the curious greenish-purple hue of the skin produced by the long-continued use of *silver nitrate* occurs after long accumulation, and in the case of this metal it is stated that this undesirable result may follow the use of a small amount of silver if it has been freely administered years before, little or no elimination having occurred in the interval. In the case of two drugs especially—*digitalis* and *strychnine*—sudden development of poisonous symptoms has been specially noted. In some cases it is possible that this may have been due to accumulation of the active principle in the intestinal canal, with sudden solution and absorption in consequence of some article of food or drink having been taken, in the same way as I have described with regard to quinine. But generally I believe it is due to these drugs causing a lessened flow of urine, and thus arresting their own excretion.

Arsenic has long been known to be a most useful drug in malaria; and quinine, its chief rival in this disease, tends in large doses to produce eruptions of the skin and weakness of the circulation. It has, in addition, the power of producing most disagreeable buzzing in the ears and deafness.

Quinine belongs to the so-called aromatic series, and it was the attempt to make quinine artificially which led to the thorough investigation of this series, which has resulted in a number of antipyretics having been prepared synthetically.

Carbolic acid or phenol is one of the simplest members of this series; but nearly every member of it has a tendency, more or less, to produce cutaneous eruptions with feebleness of the circulation, with sometimes a tendency to collapse, and with a tendency also to produce anemia when administered for a long time. The eruptions vary in character according to their intensity, but most frequently consist either of simple redness, sometimes accompanied by papules, or of a rash resembling urticaria, and accompanied like it by troublesome itching. Carbolic acid, *salicylic acid*, *salicylates*, *benzoic acid* and *benzoates*, *thalline*, *antifebrin*, *phenacetin*, *lactophe-*

nin, *salol*, *naphtol*, *analgin*, and *exalgine* have all been noted as producing redness; and although the further stages of papules, vesicles, or urticaria may not have been observed in each of these remedies, it is probably only a question of dose, and any one of them may cause it.

In the case of *antipyrine*, which is the most frequently employed of all the antipyretics, not only have scarlatiniform rashes, urticaria, miliary vesicles, and much cutaneous irritation been observed, but even hemorrhagic rashes have been noticed. *Turpentine*, and substances allied to it in chemical composition, such as *copaiba*, *cubeb*s, and *essential oils*, have a similar tendency to produce erythematous and vesicular rashes with intense itching, and *borax* and *boric acid* produce mottled redness, while *sulfonal* may give rise to a red rash, and *chloral* to one which is both red and papular. The effect of *bromides* and *iodides* is so well known that I need not do more than allude to it here. I should, however, mention the effect that the local application of *calomel* may have upon the eyes of a patient who is taking iodides. The iodide is excreted by the lachrymal gland, and appears to give rise to the formation of mercuric iodide, which, being a powerful irritant, causes severe inflammation of the eyes if calomel be locally applied to them at the same time.

The drugs which I have already mentioned as acting on the skin and producing rashes, probably do so by a local action during the process of elimination, in the same way as arsenic, although this may be aided to a certain extent by a general action on the nervous system in the case of salicylic acid and several of its congeners, which often cause much sweating. There are several drugs that produce red rashes which are accompanied, not by sweating, but by extreme dryness of the skin. These are *belladonna*, *atropine*, *stramorium*, *hyoscine*, and *solanine*, all substances obtained from the natural order *Solanaceæ* or its subdivision, *Atropaceæ*. The redness which they produce is generally diffuse, and more usually resembles the rash of scarlatina than that of measles and urticaria.

Antidiphtherial serum very frequently produces rashes which may resemble scarlatina, measles, or urticaria; and in one case where I used *antistreptococcus serum* for ulcerative endocarditis, the effect was both astonishing and alarming. The whole subcutaneous tissue of the body became edematous, and the eyelids so swollen as to almost close the eyes, so that the patient presented the typical appearance of a man suffering

from a case of extremely bad chronic nephritis.

Morphine does not often cause a rash, but it sometimes causes very troublesome itching, and it may have a very marked effect upon the vessels of the skin, leading to flushing. Such flushing is still more marked in persons who are accustomed to taking chloral; it may not be evident in ordinary circumstances, but it becomes very annoying if the patient takes any alcohol, and sometimes even after food.

Nearly all the substances that I have mentioned as acting on the skin tend also to enfeeble the circulation and give rise, if long continued, to a feeling of weakness, or even to sudden fainting. In the case of a patient of mine who was accustomed to take morphine, fainting and loss of consciousness occurred when the patient quickly rose to a standing position. This would appear to indicate that the fainting is rather due to vascular dilatation than to cardiac weakness. In the case of cardiac tonics, such as *digitalis* and *strophanthus*, the excessive slowness of the heart which may occur when the drug is pushed to too great an extent may lead to sudden syncope of a fatal character, and this is all the more likely to happen if the patient is not only in the upright position, but is attempting to micturate. The cardiac tonics appear to be eliminated by the mucous membrane of the stomach, and in this process give rise to irritation with nausea and sickness. This may pass off by merely stopping the administration of the drug; but their disappearance may be accelerated by giving large draughts of water so as to wash out the contents of the stomach completely, while any of the water absorbed will tend to hasten their elimination by the kidneys.

Another drug that is said to have a very depressing action upon the heart is *chloral*, and no doubt it has this action to a considerable extent; but my friend, Prof. Liebreich, has pointed out that when chloral is taken continuously, it tends to lessen the alkalinity of the blood by yielding formic acid in its decomposition in the body. For this reason he strongly advises that alkalies such as sodium or potassium bicarbonate should always be taken when chloral is used regularly, a piece of advice which I think is not often heeded.

Nearly all the drugs belonging to the benzene series have not only an antiseptic and an antipyretic but also an antineuralgic action; and sodium salicylate, phenacetin, exalgine, and still more antipyrine are all used for the relief of headache and other forms of pain. In cases of neuralgia I believe that a

greater or less degree of alkalinity of the blood may influence the pain. For some time past I have used a method of treatment in appendicitis which has given very satisfactory results. It consists in administering *sodium salicylate* and *belladonna* in very full doses. I usually prescribe 15 or 20 grm. of salicylate every two hours, and 10 or 15 minims of the new B. P. tincture of belladonna. The drugs may either be given at the same time or in alternate hours; but they are not mixed because each drug should be taken until the first symptoms of its physiological action appear; singing in the ears in the case of salicylate; and dryness of the mouth, dilatation of the pupil, and quickness of the pulse in the case of belladonna. When these symptoms appear, the drug is either to be stopped entirely or greatly diminished in quantity. In two cases the patient had become delirious before any dryness of the mouth or any other symptom of physiological action of the belladonna appeared; but in both cases I found that a tendency to insanity was present in the family. Both patients had been perfectly sane all their lives, but the belladonna appeared to develop the latent tendency for the time being. It is difficult or impossible to explain this curious effect of belladonna upon the brain, and it is also very difficult to explain why antineuralgics sometimes intensify instead of relieve pain, or why narcotics sometimes fail to act or produce excitement instead of sleep.

When I was working in Prof. Ludwig's laboratory it was the custom always to narcotize a dog before an experiment by injecting a quantity of *laudanum* directly into the subcutaneous vein which runs across the hock joint under the hind leg. Usually the animal fell into a profound coma, from which nothing could arouse it. On one occasion I injected about a dram of tincture of opium; but instead of the expected sleep, excitement was produced so that the animal howled and struggled. I immediately injected another dram, with no better result. I again injected a third, and still the excitement continued. Not knowing what else to do, I then injected a strong solution of chloral. At once the excitement subsided and the expected coma came on. This showed me that occasionally a mixture of hypnotics may produce much better results than a single one.

Excitement of the circulation tends to counteract the effect of a narcotic upon the brain, as is well known in cases of opium poisoning, where the circulation is kept active by keeping the patient walking and by applying a painful stimulus such as a strong

faradic current in order to prevent coma. Sometimes the sleeplessness is induced and the effect of the narcotic counteracted by irritation in the stomach due to excessive acidity of its contents, and a teaspoonful of sodium bicarbonate in water by neutralizing the acidity will allow sleep to come on. Another cause of excited circulation is fever, and in febrile cases where sleeplessness is a marked symptom the ordinary narcotics may fail to induce sleep; but if the patient's temperature be reduced by sponging, by packing, or by the administration of some antipyretic such as phenacetin, the narcotics will then take effect or sleep may occur without the use of any narcotic whatever.

CONTRASTS BETWEEN CERTAIN COMMON DISEASES IN CHILDREN AND ADULTS¹

By J. Walter Carr, M.D., F.R.C.P.

(Concluded from page 437, November issue)

4. DISORDERS OF DIGESTION

Every one recognizes the extremely important part played by digestive disturbances in the diseases of infancy, usually as a result of errors of diet; equally we realize the frequency with which dyspepsia occurs in adults, and the protean manifestations to which it gives rise. But between these two periods of life is one in which the prevalence of dyspepsia, and the varied symptoms it causes, have hardly been sufficiently insisted upon, although throughout childhood it is probably hardly less common than in adults, and scarcely less important than in infants. It is overlooked, I think, partly because the likelihood of its occurrence is sometimes not sufficiently considered. Children are apt to be credited with almost unlimited powers of digestion, and if by chance the physiological limits are exceeded, a sharp, but short, attack of unmistakable gastritis, or gastroenteritis, is often regarded as the only penalty. It is true that, during the stage of rapid growth and development, the ingestion and assimilation of what may appear to be a very large quantity of food are essential, but because the physiological activity of the alimentary canal is great, the chances of derangement are all the more considerable, and this is specially true of town-bred children, leading an essentially in-door life, particularly if the parents were also town-bred. Another reason, perhaps, why chronic dyspepsia is overlooked in children is the marked difference between the symptoms in infancy and childhood. In the former period, digestive disturbance is

¹ *Edinburgh Med. Jour.*

characterized especially by vomiting and diarrhea; in the latter, vomiting is uncommon (except from acute disturbance), and constipation is usually predominant. Yet a third reason for its not being recognized in childhood is, that the indirect or reflex symptoms to which it gives rise are often so prominent as to mask the original cause. Such symptoms are, of course, both numerous and important even in adults, *e.g.*, mental depression, palpitation, cardiac irregularity or even anginal attacks, headache, giddiness, disturbed sleep, etc.; but in children they are more conspicuous, and also somewhat different in character.

One of the most marked distinctions is that, whereas adults suffering from purely functional dyspepsia rarely get much thinner, children waste considerably, a natural result of the occurrence of prolonged anorexia during the period of rapid growth. Again, ordinary chronic dyspepsia in adults rarely, if ever, causes any rise in temperature, whereas in early life it commonly produces some fever in the evening, it may be for considerable periods of time. A dry hacking cough is also frequently present. Now, when a child gets steadily thinner, has a good deal of cough, and some pyrexia every evening, what more natural than that it should be regarded as tuberculous, and any digestive disturbance looked upon as secondary rather than primary. The results of physical examination in such a case are frequently equivocal, owing to the bronchial breathing and bronchophony often heard in a child in the upper interscapular region, over the large bronchi, especially on the right side; whilst, even if the lungs are apparently healthy, we may be quite unable to exclude the possibility of tuberculosis of the bronchial glands. In many such cases only time and the results of a carefully regulated dietary will clear up the diagnosis; but, unfortunately, under the mistaken suspicion of incipient tuberculosis, the child is often "fed up" with all kinds of unsuitable food, and dosed with cod-liver oil, "chemical food," strengthening syrups, etc., a line of treatment which only aggravates the real malady in the highest degree. What is really required is careful regulation of the diet, plenty of fresh air, a mixture containing bicarbonate of soda and tincture of *nux vomica*, with perhaps some tincture of rhubarb, and a dose of gray powder and rhubarb every second or third night to regulate the bowels. One or two teaspoonfuls of malt extract may generally be given with advantage twice a day after food; and as the child improves, especially in cold weather, the combination of cod-liver oil and malt may

be substituted for the pure malt. On no account should any preparation containing syrup be given.

In some children with chronic dyspepsia, flatulent distension is very marked, and may give rise to more or less pain, and to a good deal of resistance when the abdomen is palpated. If evening pyrexia, wasting, and perhaps occasional attacks of diarrhea, alternating with constipation, are also present, the combination closely suggests tuberculous peritonitis, and a considerable time may have to elapse before a positive diagnosis can be made. Simple flatulent distension, however, never produces the peculiar doughy feel which is so characteristic of the tuberculous disease, and is due to the matting together of the abdominal viscera, whilst, of course, the presence of free fluid in the peritoneal cavity would be conclusive evidence of the existence of more than functional disorder.

There are also other indirect or remote consequences of digestive disorder in childhood, which are seldom, if ever, met with in adults; for instance, night terrors, which, although undoubtedly especially frequent in neurotic children, are certainly in many cases excited by gastro-intestinal disturbance, and may be ineffectually treated by mere sedatives unless their cause is recognized. As a rule, they pass off as the tongue cleans and appetite improves under suitable treatment, though a dose of bromide or of bromide and chloral at bed-time may tend to prevent their recurrence. Syncopal attacks may undoubtedly be caused by dyspepsia, although the perhaps greater probability of *petit mal* must not be overlooked. Sometimes the two conditions seem to be very closely associated. Henoch has pointed out that serious asthmatic symptoms, with cyanosis and rapid breathing, may be due entirely to irritation of the nerves of the stomach in gastric catarrh.

Other symptoms which may be present are apt to excite a suspicion of intracranial disease; *e.g.*, headache, particularly in the morning, mental apathy, grinding of the teeth, and occasionally convulsions, though these are a result of gastro-intestinal disturbance far more frequently in infancy than in childhood. If, in addition to some of the above symptoms, constipation and perhaps vomiting are also present, a clinical picture results which may closely simulate that of the early stage of tuberculous meningitis. Any irregularity of the pulse usually points to the more serious condition, but is due now and then to gastro-intestinal disturbance alone.

Again, it is important to remember that

nearly all the symptoms so commonly attributed to worms are mainly due to dyspepsia, for intestinal worms (excluding, perhaps, tapeworms) exist in the alimentary canal, because it is in an unhealthy condition—in a state usually of chronic catarrh; and it is this catarrhal state of the bowel which gives rise to most of the symptoms, so that the best way of getting rid of the worms, and especially of preventing their recurrence, is to treat the abnormal conditional of the intestine.

Lastly, it is well to bear in mind that chills, particularly from insufficient clothing, or more frequently from its improper distribution, are undoubtedly an important cause of dyspepsia in childhood; less commonly, perhaps, than in infancy, but certainly far more frequently than in adult life.

The above afford examples of exceedingly common and important diseases in both children and adults, which present, however, marked contrasts in the two periods of life. It would be easy to multiply instances almost equally striking, but I need only mention a few. One of the most interesting is typhoid fever, which is, as a rule, a much less serious disease in children than it is in adults, owing to the intestinal lesions in the former being less severe, although the general symptoms, the fever, etc., may be quite as pronounced. Consequently, in early life, there are more abortive attacks. The abdominal symptoms—diarrhea, distension, etc.—are less marked, and the more serious complications—perforation and hemorrhage—much less likely to occur. The “typhoid state” is also rare, and the typical rash often altogether absent. On the other hand, vomiting and reflex phenomena (e.g., head-retraction) are commoner than in adults, and, as may well be imagined, the difficulties of diagnosis are often much greater even than in later life.

Acute laryngitis, again, presents conspicuous contrasts: in adults, giving rise to comparatively trivial symptoms; in children, to urgent dyspnea, stridor, cyanosis, and occasionally even death. Also, many skin diseases, whilst common to all ages, run quite a different course in children to that which they do in adults, owing to the skin being more irritable, and inflammations of it tending to become more diffuse and more readily purulent, than in later life. *Eczema* affords a conspicuous example.

“I desire to express my appreciation of the great value of the ARCHIVES.”—JOHN FORREST, M.D., Charleston, S. C.

TREATMENT OF CHRONIC NEPHRITIS¹

By George W. Pfrohm, Ph.G., M.D.

Assistant Professor of Therapeutics in the Medico-Chirurgical College of Philadelphia

IN a former lecture I had the opportunity of dwelling upon the general principles which should govern us in the management of kidney disease. I wish to-day, in connection with two cases which I shall bring before you, to study more in detail the treatment of the various symptoms and complications of chronic nephritis.

Case I: Chronic Parenchymatous Nephritis.—About five weeks ago this man was admitted with elevated temperature and symptoms of uremia. He was dull and apathetic, but complained of headache and frequently vomited. His lower limbs were edematous and the abdominal walls were distended by a large serous effusion. He was at once placed in a hot bath; but as this did not produce much alleviation, he was given a hypodermic injection of pilocarpine hydrochlorate. The sudoriparous glands responded more freely than to the hot water alone and a large quantity of fluid was drained off through the skin. By this means a certain proportion of urea is removed from the circulation, and, furthermore, the action of diuretic or other remedies augmented. The injection of pilocarpine is a good practice, more particularly when the pulse is comparatively forcible. If, however, the heart is weak, it is necessary to give a stimulant in conjunction with the alkaloid. The temperature soon fell to the normal point. When the man entered the hospital but a small quantity of urine was being secreted. From the large percentage of albumin which it contained and the presence of epithelial, fatty, and granular casts the diagnosis of chronic parenchymatous, or tubal, nephritis was made.

The profuse perspiration excited by the pilocarpine was of value not only by eliminating urea, but also by the relief which it afforded the circulation of the kidneys. The engorgement of those organs was lessened and, as a consequence, the quantity of urine was increased. The patient was also placed upon infusion of digitalis. Unfortunately, however, the improvement did not long continue. After a few days the amount of urine began to decline. This fact was of ominous significance. The digitalis was withdrawn and the infusion of scoparius substituted. This, with other measures which were adopted, produced a favorable change, and in the course of about a week we ventured to conjoin the tincture of stro-

¹ Delivered in the amphitheater of the Medico-Chirurgical Hospital.—*Medical Bulletin*.

phanthus with the scoparius. Being well borne in the dose of 8 drops, it was subsequently increased to 10 drops, given in $\frac{1}{2}$ oz. of infusion of scoparius.

In the meantime the abdomen had been tapped, relieving it from its burdensome load of transuded fluid. This is the speediest and most effectual method of removing fluid from the peritoneal cavity. The occurrence of ascites in this case teaches us that we are confronted with the not unusual co-existence of cirrhosis of the liver and disease of the kidney. When we view the ample protrusion of the abdominal walls caused by such an effusion and observe, likewise, the turgescence and varicosity of the superficial veins, we can realize the ill effects which must be produced within the body. The mechanical pressure obstructs the circulation in the stomach, bowels, and kidneys. An excess of blood aggravates the morbid process in the kidneys, and is likewise responsible for the occurrence of gastro-enteritis with diminished appetite, loss of digestive power, and decomposition of food with resulting flatulence, and other well-known symptoms. In a case like the one before us, where liver and kidneys are concurrently diseased, the delayed circulation in the lower limbs adds to the edema, which is due primarily to another cause. The restriction of the movements of the diaphragm is accountable for the dyspnea often present in ascites. I call your attention to the fact that this patient has suffered so much from flatulence and cough that we have been obliged to prescribe remedies for both symptoms. His flatulence was so great, in fact, that at times it distended his abdomen almost as much as the fluid within the peritoneal cavity.

It is questionable whether repeated tapping is not the most effectual, as it is undoubtedly the most prompt, treatment of hydroperitoneum. The distension and the pressure occasioned by a large mass of fluid impairs the activity of the absorbent glands, the contractility and vitality of the blood-vessels and lymphatics. A corollary of this consequence is that if, by the use of diuretics, we are able to effect some diminution of the effusion it, nevertheless, soon reaccumulates. Diuretics are, at the best, uncertain and unreliable agents in the treatment of ascites. On the contrary, when the fluid is withdrawn by tapping, the glandular system recovers, at least in a measure, its activity.

The results of our treatment have been fairly satisfactory. The ascites has been controlled and the edema is decidedly diminished. He is now and has for the past three

weeks been passing from thirty to forty ounces of urine every day and the percentage of albumin has decreased. At times we have alternated the scoparius with digitalis. The latter for awhile did good and the amount of urine greatly increased, as I have said. There came a time, however, when secretion began again to fail and the patient manifested a more or less constant drowsiness. This cerebral implication was a premonition of danger. At this juncture the digitalis was again withdrawn and was replaced by caffeine, which soon exerted a beneficial influence, as was shown by the augmentation of the urine secreted.

The flatulence, which was at intervals so extreme and so troublesome, was greatly relieved by the use, morning and evening, of a 10-grn. suppository of asafetida. This is, perhaps, the best remedy for the condition. In addition to its power of expelling flatus it is a mild stimulant to the heart, promotes secretion of the gastric juice, the function of the skin and kidneys, and combats the tendency to sleep due to the poisoned blood and embarrassed circulation. This valuable combination of properties renders asafetida an available and useful remedy in such a condition accompanying Bright's disease. Salol, which has the power of checking fermentative decomposition, is contra-indicated in such a case as the present because it is liable to add to the renal hyperemia.

Another symptom demanded some special treatment in this case. The man suffered from shortness of breath and cough. These symptoms excite suspicion and should put us on our guard. Some dyspnea may be produced mechanically by the ascites and a cough may be due to bronchial irritation or inflammation. The patient's pulse is relatively good at the present time, but we must remember that pulmonary edema may occur in the latter stages of Bright's disease and especially in uremia. For the cough the man has been taking ammonium chloride as required. This remedy is a stimulating expectorant, particularly useful in debilitated subjects and in cases attended by profuse secretion from the bronchial mucous membrane. Another method which militates against edema, whether situated in the lungs or elsewhere, and which is systematically employed in such cases as the one upon which you now look, is the use of hydragogue cathartics. Such agents cause elimination in the profuse liquid stools of the toxic products which act on the central nervous system and induce that disastrous condition which, for want of a better name, we call uremia. The pathological chemistry

of uremia has by no means been yet rendered clear. The explanation, until recently in vogue, that it depended upon excessive accumulation of urea in the blood, has been seriously questioned; but, at any rate, what principally concerns us as practicing physicians must always hold true: that in uremia we witness the effect of certain principles generated within the human organism and which we should, by every means in our power, assist Nature to remove. Free catharsis is one of the means by which we may succeed in accomplishing this highly desirable object. Among the substances which are used for this purpose are the stronger salines, such as magnesium or sodium sulphate, potassium bitartrate, alone or in combination with jalap, and the vegetable drastics, as jalap (already mentioned), elaterin, or, in desperate emergencies, even croton oil. In this case we have employed magnesium sulphate (Epsom salt), after the method of Dr. Matthew Hay; that is, in concentrated solution. In this manner we have kept the bowels constantly flushed, lessened the excessive accumulation of morbid material, diminished the edema, and, according to a graphic expression, "bled the patient through his tissues."

There is another expedient which is of service in extreme edema of the lower limbs and is analogous to tapping in ascites. I refer to multiple punctures made by a needle-knife or the hypodermic needle. Through the minute, but numerous, openings a surprising quantity of serum will exude and the circumference of the swollen limbs be appreciably reduced.

Case II: Chronic Parenchymatous Nephritis.—The next case is a grave and portentous one of uremic intoxication. The man was suffering, when admitted, from a dull, stupefying headache accompanied by nausea. The urine was of specific gravity of 1.018, loaded with albumin, epithelial and granular casts. Strange to say, in view of what was about to happen, the amount passed was forty-two ounces in the twenty-four hours, an approximation to the normal standard. In order to relieve the pain in the head he was given a hot pack. This measure was, for a time, of no avail; but the next day the pain had returned, and while preparing to repeat the hot pack he was seized with a convulsion. Blood was immediately withdrawn by the practice of venesection, or phlebotomy, about a pint being taken from the median basilic vein with prompt and manifest benefit. This is a procedure which, at the present day, is "more honored in the breach than in the observ-

ance." Nevertheless, it is the swiftest method, in a case like the present, removing a quantity of poisoned blood from the engorged brain and sparing that delicate and important organ from material damage. In performing this operation we need not limit ourselves absolutely to a measured quantity, but should be guided by the effect upon the pulse. The blood may with advantage flow until the pulse loses its hard, tense character, and becomes softer and less rapid. Nothing could afford a finer demonstration of the utility of a therapeutic method than the result in this instance. Within half an hour the patient had quieted and had partially regained consciousness. In conjunction we administered 30 grn. of bromide of sodium with 10 grn. of chloral by rectum, and, in obstinate cases, inhalations of chloroform are also of benefit. The hot pack was then given, but as no effect was produced at the end of fifteen minutes a hypodermic injection of $\frac{1}{10}$ grn. of pilocarpine hydrochlorate was given. It is better to give a small dose of this alkaloid combined with the hot pack on account of the tendency of a larger quantity to cause edema of the lung. The perspiration started, but the man subsequently relapsed into unconsciousness and upon the following day the hot pack was again administered, only $\frac{1}{20}$ grn. of the pilocarpine being injected. The hot pack abstracts a large quantity of water from the circulation, but the alkaloid does more: it carries off urea, as described in a previous lecture.

The application of hot water is particularly serviceable where there is general anasarca, but edema was not a prominent feature of this case. Upon this second day of treatment the patient was in a semiconscious state and delirious. Delirium is a not uncommon manifestation of uremia. It may be quiet or furious, and is sometimes attended by marked hallucinations.

On this second day, while in the condition described, the patient received into the subcutaneous connective tissue an injection of the normal saline solution. This fluid is rapidly absorbed, dilutes the toxins, and stimulates the kidneys. Consciousness returned within five hours after the injection. If this welcome result had not been obtained I should have taken another pint of blood from the arm and given a second injection of normal saline solution. Two days after this time—i.e., on the fourth day of treatment—the hot pack was again administered as a precautionary measure, and $\frac{1}{40}$ grn. of pilocarpine hydrochlorate was injected beneath the skin.

Purgatives also had their part in the man-

agement of this threatening case. Elaterin was given the first day. This is the active principle of elaterium, of which it constitutes from 15 to 40 per cent., and has therefore been substituted for elaterium in the United States Pharmacopeia. Although a potent substance, it was inefficient on this occasion. After the lapse of an hour a soap-suds enema was given. As this also was followed by no response, another enema consisting of ox-gall and turpentine was essayed. This likewise proved a failure as did also an olive-oil injection. We then had recourse to croton-oil in the dose of 1 drop and to the hypodermic injection of 15 drops of a concentrated solution of Epsom salt, which, in one hour, produced several copious evacuations. You must realize also that such active purgatives not only deplete the intestinal vessels, but serve the valuable purpose of drawing blood to the intestinal canal, by virtue of the irritation which they excite in that portion of the economy, and thus relieve the pressure upon the brain. The actual and direct abstraction of blood, the influence upon the integument and the bowel, are co-operative or synergistic measures by which we seek to relieve the cerebral oppression. These methods do good in another way: by reducing the congestion of the kidneys, the source of this train of ills, and giving the secretory apparatus of those organs an opportunity to resume its functions. In such a condition as we have been dealing with ordinary diuretics, given in the usual prescribed manner, are too feeble and too tardy to deserve our trust. We may, however, apply to the loins a flaxseed poultice made up with infusion of digitalis or powdered leaves. This application will frequently stimulate the kidneys to action, or, at least, in conjunction with the other remedies and methods instanced, it assists the kidneys to resume their function.

Before these patients return to their wards I wish to emphasize one precaution which you should always bear in mind. This relates to the use of the catheter. Introduce it every few hours and draw off whatever urine the bladder may contain. For if this fluid, surcharged with toxic products, be allowed to remain within the bladder, absorption may take place through the wall of that viscus, just as in opium poisoning we must rid the stomach of its contents in order to prevent absorption through the stomach.

If now, the patients having retired, you ask me: what of their future? the reply cannot be very encouraging, I am obliged to say. As you have observed from the histories, the disease has advanced so far in both of the patients that the kidneys have

failed in the work of elimination, and uremic intoxication ensued. In addition the first patient has also a cirrhotic liver. There can be no fair prospect with both liver and kidney diseased, as you may readily surmise.

A large proportion of patients who enter the hospital afflicted with Bright's disease are already in advanced stage of the malady, as you may infer from those which you have seen in this arena. It is perfectly true, moreover, that one of the first cases, perhaps the very first case, to which the youthful graduate may be called will be one of fully developed uremia with all its dramatic incidents. On the other hand, in private practice we are often consulted by individuals on account of some impairment of health which they have not, however, regarded in a serious light, but which a chemical and microscopical urinalysis proves to be due to Bright's disease. Such patients may be pallid and to some extent enfeebled, or they may complain of some digestive disturbances. The malady is often of very insidious beginning and tardy in its march. Backache, which creates so much alarm in the popular mind as a sign of renal disease, is by no means a common symptom. Attacks of vomiting and diarrhea sometimes occur and flatulence may be troublesome. The victims often suffer from headache irrespective of uremia and due to a minor impression of the morbid products. Vertigo may be among the earlier symptoms. Neuralgia is in many instances attributable to the unsuspected presence of Bright's disease. The gradual enlargement of the heart may produce symptoms which first lead the patient to consult his physician. Very often slight dropsy is the first evidence noticed. Pallor of the countenance with slight puffiness of the lower eyelids are danger-signals which speak to the medical man of Bright's disease, although their significance may not be suspected by the patient. In other cases a slight swelling of the ankles is an early indication. There are some lamentable cases in which disturbances of vision or even blindness may precede the more usual symptoms of kidney disease. Inflammation of the retina or optic nerve is, in fact, among the unfortunate results of nephritis. Epistaxis and other hemorrhages not uncommonly occur during the progress of the affection. Cirrhosis of the liver co-exists in some cases, as illustrated by one of our patients. Serous transudation is liable, in the course of the disease, to involve the respiratory organs. Hydrothorax and edema of the lungs or glottis are among the accidents of this comprehensive morbid

process. Pericarditis and endocarditis with valvular lesions as a consequence are not unusual complications of chronic disease of the kidney.

From this brief allusion to the multitudinous signs, symptoms, complications, and sequences of chronic parenchymatous nephritis you may readily infer that, taken as a whole and in all its phases from beginning to end, this deplorable malady is one which calls for all our resources and may well tax the ability of the most competent physicians.

A study of this intricate picture forces upon our minds the conviction that no routine or stereotyped plan of management can be followed. The general treatment must frequently be enlarged or modified in accordance with the special manifestations presented. It is true, doubtless, that a careful attention to diet will have much influence upon the course and may for a long period enable a patient to escape the most serious accidents of this disease. Every experienced practitioner can point to cases where life was prolonged by careful attention to diet and hygiene. Throughout the course it is imperative that the bowels should be kept sufficiently active. As regards the attacks of diarrhea, also, it is not the part of wisdom to assume too much energy in attempting to suppress them, for by this channel much toxic material may be eliminated. If the discharges are excessive we may give one of the preparations containing tannic acid often enough to hold them in reasonable check. A preparation of iron answers a still better purpose if it does not disturb the stomach, as, upon general principles, it is indicated in Bright's disease on account of the anemia. It is better to avoid the use of opium in this condition, as that drug diminishes secretion in the kidney as well as in the intestinal canal and, moreover, should escape by way of the kidney. It is, in my judgment, a remedy to be very sparingly and cautiously employed, although we have the high authority of Loomis for its value in uremic convulsions, and his advocacy has been followed by many practitioners. Whatever good opium is capable of doing in uremia, however, can generally be accomplished more efficiently by the other agents which I have mentioned.

If, at times, the bowels manifest the reverse disposition we may, when dropsy is not established or prominent, rely upon the milder saline purgatives or the daily ingestion of some laxative mineral water as a beverage. I have already spoken of the use of the hydragogues as depurative remedies. Diuretic substances have a place in

the plan of treatment. They maintain the functional activity of the kidneys and aid in keeping the tubules free. A combination of a diuretic with iron, as in the well-known Basham's mixture—now official under the title of liquor ferri et ammonii acetatis—has long been a favorite prescription. Inflammations of serous membranes, so apt to occur during Bright's disease, are treated, in the main in the same manner as when they arise as primary affections, but with the difference that in the secondary cases depressant methods are inadmissible.

THIOCOL IN PNEUMONIA

Dr. M. Ebersson¹ was the first to report on the use of thiocol in pneumonia, after employing it in eleven cases with uniformly satisfactory results: the crisis occurred as a rule in twenty-four to seventy-two hours after beginning the treatment; no symptoms of intolerance were observed, and there was no need of administering any antipyretic. The dose for children under 1 year was 8 grains per day; for children between 1 and 3 years, 16 to 24 grains daily; for children of 10 years, up to 1 dram; adults took 75 grains per day, evenly distributed.

Equally favorable results have been obtained with thiocol by Dr. F. Stifter, of Altstadt (Bohemia), and by Dr. A. Heil, of Königswald, as appears from communications to the manufacturers. Dr. Stifter gave the drug in several cases of pneumonia, in the dose of 1 Gm. (15 grm.) 3 times a day, and observed a remarkable effect on the disease. A striking improvement was particularly noted in a case taking a chronic course, where the crisis had not set in on the seventh day and the reddish-brown expectoration was still present during the third week; and in another case, though the disease had set in with violent pains and high fever, the crisis was brought about on the third day by the administration of thiocol in the dose noted.

Dr. Heil writes that he tried thiocol in a severe case of influenzal pneumonia, giving a 1 Gm. (15 grm.) powder every 2 hours, with the result that the next day the patient was free from fever and all suffering; the fever did not return, and convalescence quickly progressed. While he does not claim that the thiocol is alone responsible for the favorable turn of events, he firmly believes that the drug has some specific action in cases of pneumonia, and recommends further trials of the treatment.

¹ *Aerzt. Central-Ztg.*, 1902, No. 8.

Progress in Materia Medica and Therapeutics

SOME USES OF HYDROGEN PEROXIDE

Dr Novikoff¹ reports good results from the use of solution of hydrogen peroxide containing $\frac{1}{2}$ per cent. H_2O_2 in infectious wounds and ulcers; a few dressings sometimes suffice to bring about cicatrization of simple atonic wounds; and he has had success with the peroxide in lichen and other skin diseases. He uses either the 3-per cent. (10-vol.) solution, or an ointment composed of 10 to 15 parts of the latter and 100 parts of anhydrous wool-fat. In stomatitis of any origin but particularly in mercurial stomatitis, the lesions disappear more rapidly under hydrogen peroxide than under any other treatment ever tried by the author. A gargle is prescribed consisting of one or two tablespoonfuls of solution of hydrogen peroxide to a glass of water. Internally, the remedy has manifested an equally favorable action in diarrhea, cholera infantum, and certain respiratory diseases; here it is given in the following mixture:

Solut. Hydrog.

Perox..... 5 to 7 Gm. ($1\frac{1}{4}$ to $1\frac{3}{4}$ dr.)

Syrup..... 15 Gm. ($\frac{1}{2}$ oz.)

Distilled Water.. 85 Gm. ($2\frac{3}{4}$ oz.)

One or two tablespoonfuls or dessertspoonfuls hourly or every two hours.

HYOSCINE IN MORPHINISM AND ALCOHOLISM

It will be remembered that several physicians, prominent among them Prof. H. A. Hare and Dr. M. K. Lott, are strong believers in the value of hyoscine in the treatment of morphinomania and alcoholism. Dr. T. D. Crothers² states that he made several very careful tests of its effects in over a dozen cases of morphinism, and also in a number of alcoholics, then abandoned it as a very unsafe and dangerous drug. It was given in small doses often repeated, also in large doses at longer intervals; but the effects were practically the same. In each instance the morphine was withdrawn within a few hours, and the consciousness of suffering was obliterated after the first or second dose of the drug was given. In each case delirium with hallucination and delusions of a mild type began after the second or third dose was given, and continued from two to four weeks. Most of the time the patient had stupor, muscular trembling and general relaxation with excessive sweating and irritation of the bowels. The usual withdrawal symptoms noted in morphinism, marked by extreme exhaustion, relaxation

and cerebral irritation, were present only in a modified form. The insomnia from hyoscine was less prominent, and the stupor more prolonged and associated with muttering, also with periods of collapse and profound indifference. The muscular prostration was intense and long continued, and the mental feebleness was apparent weeks after the active symptoms had subsided. In each of these cases convalescence was protracted, and the neurotic derangements which followed seemed more pronounced and difficult to control.

As a substitute for morphine, Dr. Crothers believes hyoscine to be more dangerous and uncertain than sodium bromide. From the use of both of these drugs delirium and dementia are almost certain to follow. From his experience, it is dangerous treatment to substitute one narcotic for another. In morphinism there are enfeebled brain-centers and profound anemias, both local and general, that are not curable by the use of other equally dangerous drugs. The conditions which follow the withdrawal of morphine are easily controlled in the proper surroundings by many simple and harmless remedies, and it is difficult to understand why hyoscine should be used to accomplish what can be done with less risk and danger. He considers hyoscine to be a dangerous drug in morphinism or alcoholism. A few fatal cases in which hyoscine was used have come under his observation; and while it is impossible to say that hyoscine caused death, there are reasons for believing that it was an active factor in the final collapse.

[Hyoscine is a potent remedy that must be administered with extreme circumspection. There are cases on record showing the marked susceptibility of some individuals for hyoscine; then there are reports of instances where persons have had an unnatural tolerance for the medicament, bearing enormous doses at frequent intervals. The dosage in one case appears to be no criterion as to how much will be required in the next. —Ed. M. A.]

BLOOD-LETTING IN PERSISTENT HEADACHE

According to Dr. H. Marais,¹ blood-letting is a good means of relieving the persistent headaches which are sometimes observed in middle-aged persons who are not benefitted by the usual remedies. He refers to a case of continual headache that had

¹ *Rev. de Therap.*, LXIX, No. 21.

² *Med. News*, LXXXI, No. 16.

¹ *Semaine médicale*, XXII, No. 40.

resisted all the customary treatment but which was relieved by a copious bleeding, the patient remaining free from pain for two years. Then there was a new attack, and the same treatment was again successful. In another case, an acute paroxysm of headache with vomiting and considerable fever, the very violent pains, which had persisted in spite of antipyrine and other sedatives given in large doses, were promptly relieved by the blood-letting; the next day the cephalalgia was almost entirely gone and five days later the patient was completely well.

SALOQUININE AS AN ANTIPERIODIC

Saloquinine is chemically defined as the salicylic-acid ester of quinine. It occurs as an odorless and tasteless powder, which is insoluble in water, sparingly soluble in alcohol or ether, and freely soluble in chloroform. Dr. W. E. Fitch,¹ of Savannah (Ga.), states that he has discarded quinine for saloquinine in malaria; the presence of salicylic acid in the latter gives it greater power than quinine for acting upon infusoria. The dose of saloquinine is one and one-half times that of quinine. Dr. F. considers it advisable to follow its administration, particularly in febrile patients in whom the gastric juice is apt to contain but little acid, with a weak solution of hydrochloric acid. It is readily taken by placing 10 to 20 grains of the dry powder on the tongue, when a half wineglassful of water carries it down. No disgusting, bitter taste is experienced, and this is a great advantage in children. The author has not had any annoyance reported to him from taking enormous doses, whereas from quinine he has sometimes observed cinchonism that was unbearable.

Dr. F. reports in detail a case of tertian estivo-autumnal malarial fever, and two of malarial hemoglobinuria, all of which promptly yielded to saloquinine, while quinine administered for a reasonable length of time and in gradually-increasing quantities up to 50 grains a day, had given but little or no benefit. In the first case he gave 20 grains of saloquinine twelve hours before the expected paroxysm. In the second case a 10-grain powder was given every half-hour for six doses; the pulse and temperature gradually returned to normal, the urine cleared up after the first day's use of the drug and remained free from coloring-matter thereafter; and the patient was discharged cured three weeks after being first seen. In the third case, described in detail, also one of hemoglobinuric fever, the bloody

urine showing also numerous casts and much albumin, 40 grains of saloquinine were given at once, and a hypodermic of $\frac{1}{8}$ grn. morphine with $\frac{1}{200}$ grn. atropine; and in 4 hours 25 grn. more of saloquinine were given and followed by a solution of hydrochloric acid. Vomiting continued nearly all that night, and about 8 oz. of dark-red urine was voided. At noon the next day the patient was partially under the effect of saloquinine and vomiting much relieved. Saloquinine was now ordered to be given at 6 a. m. and 6 p. m. daily, 1 dram at a dose. Two days later the urine had cleared up, and a week afterward there were no further indications of malarial paroxysms and the urine was normal. In both of the hemoglobinuric cases, immediately upon stopping the quinine and substituting saloquinine the hemoglobinuria also ceased, and did not return, and both patients made uninterrupted recoveries.

Dr. Joseph Sternberg¹ has used the remedy on his own person and in several cases of malarial affections. The single doses were 16 to 24 grn., once or twice daily, and the results have borne out the favorable conclusions of other authors as to the specific virtues of saloquinine in malarial disease.

Dr. S. v. Kolozsváry,² of Kolosvár, relates his experience with saloquinine in 13 cases of malaria, mostly in adults. He gave 33 grn. in three portions in the course of an hour and a half, three hours before the expected paroxysm. The powder was placed on the tongue and washed down with a swallow of water. The author's conclusions are as follows: In the tertian type the disease promptly disappears under the use of saloquinine, the temperature becomes normal, and the blood remains free from the peculiar parasites; and in the quartan type, which is known to be more resistant to quinine, saloquinine has the same effect as quinine but must be given in correspondingly larger doses; saloquinine is a specific in malaria, possessing two important advantages over quinine: tastelessness, and freedom from by-effects.

COCAINE AND MENTHOL FOR CORYZA

The headache and sense of obstruction within the nose which usually accompany coryza during the acute stage are the two symptoms with which the physician is concerned in order to afford immediate relief to the patient. It is often enough that sprays and douches are resorted to which embody a warm solution of cocaine, but the danger of the cocaine-habit in using this

¹ *Internat. Med. Magaz.*, XI, No. 4.

¹ *Aerztl. Centralzeit.*, XIV, No. 23.

² *Die Heilkunde*, VI, 1902, No. 9.

drug alone makes the physician hesitate to give it promiscuous employment. For this reason Dr. A. Pugat¹, of Vienna, has been using with great satisfaction, so far as the results on the symptoms and the danger of drug habit are concerned, a mixture of five parts each of cocaine hydrochloride and of menthol and of 100 parts of liquid vaselin. The effect is relief of congestion to a marked degree, and is best when the spray is repeated every three hours. He finds that this effect is more marked than when the cocaine alone is used.

KERATITIS TREATED WITH ICHTHYOL

Dr. I. I. Fedorov,² of Pensa (Russia), successfully treats infiltrations of the cornea, with superficial ulcerations, by applying an ointment composed of 0.1 Gm. (1½ grn.) of ichthyol and 0.15 Gm. (2¼ grn.) of cocaine hydrochlorate to 5 Gm. (75 grn.) of ointment-base. He states that under these applications the inflammatory symptoms quickly subside and the pains diminish, the newly-formed blood-vessels disappear, and the corneal tissue becomes restored, nothing but a slight opacity remaining, and this not constantly. The author has treated 28 cases in this manner, 22 of which were of a blennorrhagic or trachomatous nature.

THEOCIN, A DIURETIC

"Theocin" is the trade name given to synthetically prepared theophyllin, one of the three isomeric dimethylxanthines and a constituent of tea leaves. Dr. O. Minkowski,³ of Cologne, recommends theocin as a very valuable and powerful diuretic in certain cases. The substance is soluble in about 180 parts of water at ordinary temperature. It is given in doses of 0.3 to 0.5 Gm. (5 to 8 grn.), dissolved in hot tea or taken as powders. The author has used theocin in 14 cases, mostly cardiac affections with edema, then nephritis with general dropsy, and finally one of ascites in consequence of cardiac cirrhosis. The diuretic action of the drug manifested itself in all these cases save two, in which vomiting regularly set in after each dose. The intensity of the effect varied widely, however; in some instances it exceeded all expectations: in one case the daily quantity of urine excreted was increased in 24 hours from 820 Cc. to 7600 Cc., and the edema disappeared completely over-night; on discontinuing the theocin the quantity fell again to 600 Cc., to increase to 4550 Cc. the next day under the use of 0.3 Gm. (4½ grn.) thrice daily. The

theocin was most efficacious in those cases where there was considerable edema in various parts of the body. Its effect was not very lasting: when the administration was stopped, the urinary excretion diminished rapidly; and on repeated use, the diuretic action gradually lessened. Compared with theobromine, which is similar in action to theocin, the latter has the advantage of more powerful and quicker action, thus necessitating the use of small doses only. Theocin is not regarded as a perfect substitute for caffeine; while it is stronger as a diuretic, it lacks the stimulating action of caffeine on the heart. On the whole, the new drug did not seem to influence the action of the heart at all: the frequency of the pulse as well as the blood-pressure remained unchanged in the author's cases. As regards accessory effects, in two instances vomiting was produced every time the remedy was given; several other patients complained after a few days of nausea and anorexia; while others took the theocin without any inconvenience whatsoever. No irritating action on the kidneys was observed. The gastric disturbances could be considerably moderated by giving the medicament in very dilute solutions and after meals.

SODIUM SALICYLATE IN PNEUMONIA

Dr. A. Frank Taylor¹ reports his experience with sodium salicylate in 25 cases of pneumonia, most of them in children from 1 to 6 years of age. One of the patients died—an infant 22 days old, which did not live quite 72 hours after the commencement of the attack. One child of 13 months had convulsions, with a temperature of 106⅓° F., and usual symptoms. Although this high degree of temperature was attained during three or four days, the child made an uneventful recovery, and in about 10 days was discharged cured. Another infant, 8 months of age, was unable to nurse for nearly 36 hours on account of the hurried breathing. Nourishment was given from a spoon, and prompt recovery followed the usual treatment. A woman, nearly 60 years of age, was apparently one of the most desperate cases it had ever been his fortune to treat with success. For 24 hours her breast, neck and lower part of the face were markedly cyanotic. Her lesion was a double pneumonia complicated by serious heart-trouble, which of course added much to the danger. She also made a fairly prompt and a complete recovery. The other cases were of average severity, but the hygienic surroundings of some of them were neither of the best nor conducive to recovery. The

¹ *Medical News*, LXXI, No. 11.

² *Nouv. Remèdes*, XVIII, No. 19.

³ *Therap. der Gegenw.*, IV, No. 11

¹ *Med. News*, LXXXI, No. 19.

cases were not confined to any one locality, but were scattered over quite a wide area, some of them being as much as 10 miles apart.

The plan of treatment was to give adults 15 grn. of sodium salicylate once in four hours, and medium doses of veratrum viride and aconite combined once every four hours until temperature fell; then to lessen the salicylate, all the time using a mixture of turpentine and lard on the chest, with a covering of flannel and a rubber dam. In treating the cases this way there seldom was any necessity for using opiates, since whatever pain existed seemed to yield to the salicylate. A little codeine or heroin, combined with ammonium chloride, etc., to alleviate the cough, was usually the only narcotic that entered into the treatment.

SUBLAMINE AS A DISINFECTANT

Sublamine (ethylenediamine mercury sulphate) was briefly described on page 70 of the current volume of the *ARCHIVES*; and since then considerable interest has been manifested in it, particularly by European surgeons. It is composed of three molecules of mercuric sulphate and eight molecules of ethylenediamine, and contains about 43 per cent. of mercury. For the sake of convenience in application it is marketed only as red-colored tablets of 15 grn. each.

Dr. M. Blumberg,¹ of Berlin, describes at length the experiments reported at last year's Surgical Congress, and gives the results obtained from practical applications of sublamine. He calls attention to the penetrative powers of the article, its non-irritativeness even in strong solution, and its freedom from the property of producing roughness of the skin. The author then refers to the use of sublamine by Prof. B. Kroenig, of Leipsic, for the disinfection of the operator's hands and the skin of the patients in the strengths of from 1:1000 to 1:500; whenever the hands have been in contact with suspicious material the strength of the solution is increased to 1:300 or even 1:200. No irritation or roughening of the hands has ever been observed. Prof. K. sterilizes his silk employed for sutures by boiling it in an aqueous solution of sublamine 1:300.

Prof. Zweifel,² Dr. Fueth, Dr. Graefe, and Dr. Bumm are also steady users of sublamine for hand disinfection, and are unanimous in declaring that it leaves the skin in nicer condition and is more efficient than corrosive sublimate; alcohol need not be employed in connection with it.

Dr. A. Schuftan,¹ after reviewing the literature on sublamine in hand disinfection, expresses the belief that its use will be extended to the treatment of syphilis—internally, hypodermically, and by intramuscular and intravenous injection. He has made a series of experiments to determine the relative toxicity of sublamine and mercury bichloride, and found that administered per os or intravenously sublamine is less poisonous than corrosive sublimate, while subcutaneously it is equally so. Taking into consideration, however, the fact that 1.7 Gm. of sublamine are equal in mercurial content to 1 Gm. of the bichloride, its poisonousness hypodermically is in reality considerably greater, and intravenously somewhat greater, than that of corrosive sublimate. This is explained by its property of not coagulating albumin. Taken by the mouth, this fact does not enter much into consideration; but when administered under the skin or intravenously, this property causes a more rapid and liberal absorption of the drug. The author concludes by stating that the non-irritativeness of sublamine may render it particularly eligible for use in syphilis.

Finally, Drs. Danielsohn and Hess,² of the Friedrichshain Hospital at Berlin, from comparative tests conclude that sublamine is superior to corrosive sublimate for hand disinfection: its non-irritativeness and freedom from action on the skin, as well as its ready solubility, are points in its favor. Prof. Fühlinger (*ibid.*) adds that the undeniable advantages of sublamine have induced him to introduce the same among others as a hand disinfectant in his division at the above-named hospital.

CUTTLE-FISH BONE IN INTESTINAL CATARRHS

Dr. Geo. Herschell³ calls attention to the use of powdered cuttle-fish bone in the treatment of chronic diarrhea and dysentery, especially those (such as hill diarrhea and sprue) which are acquired in tropical climates. With this drug he has often cured in a short time intractable cases of chronic diarrhea which had resisted all other means of treatment. He gives $\frac{1}{2}$ to 1 dram three times daily, after a preliminary dose ($\frac{1}{2}$ oz.) of castor oil. In cases of sprue the author says he has seen several remarkable cures effected by powdered cuttle bone. It appears to act in a mechanical manner upon the intestinal mucosa. During its use castor oil should be given every two or three days.

¹ *Münch. med. Wochenschr.*, XLIX, No. 37.

² *Centralbl. für Gynäkol.*

¹ Inaugural Dissertation, Berlin University, 1902.

² *Deut. med. Wochenschr.*, XXVIII, No. 37.

³ *Internat. Med. Magaz.*, XI, No. 10.

CLINICAL USES OF THIOCOL

Dr. Carl Fuchs¹ relates his experience with thiocol (guaicol-sulphonate of potassium) in a number of cases of phthisis and chronic bronchitis treated at the Vienna General Hospital. After referring to the advantages of thiocol over guaiacol or creosote and its derivatives—odorless, freely soluble in water, non-irritating, non-toxic, and exceedingly assimilable—he briefly describes eight typical cases to show the effects of the medication, and gives his opinion that thiocol, by virtue of its advantages over all creosote derivatives, but more especially on account of its non-poisonousness, its power to improve the appetite and digestion and to check the fever and night-sweats, and capability of favorably influencing the morbid process in the lungs, is the very best guaiacol compound extant for use in the treatment of phthisis; particularly valuable in incipient pulmonary tuberculosis, and in cases of phthisis complicated by intestinal tuberculosis. There are no contraindications to its use, even hemoptysis being no obstacle.

The author prescribes thiocol as powder in wafers, or as tablets, the usual doses being 1 Gm. (15 grn.) 3 times daily, but sometimes being as low as 2 Gm. (30 grn.), and as high as 6 Gm. (90 grn.) a day; or he gives the syrup ("sirolin") in doses of a teaspoonful to a tablespoonful (the latter only exceptionally).

As for the effects on the symptoms, the author states the fever, which in four of his cases was previously present for weeks at a time, disappeared within a few days and was absent thereafter throughout the entire period of treatment. Patients who had no fever before did not manifest any while taking the thiocol. The night-sweats were either arrested or considerably moderated, even in cases where atropine proved of no avail. The cough was in most cases favorably affected, in that the irritation and hacking was lessened or completely disappeared. Expectoration was facilitated, and the sputum diminished in quantity and became less prevalent; and these effects were observed also in several cases of acute and chronic bronchitis. The physical signs were improved correspondingly.

Dr. Morin² has used thiocol in various affections, including acute and chronic bronchitis, emphysema, pneumonia, whooping-cough, and pulmonary tuberculosis. Adults received 1 Gm. (15 grn.) in cachets, 3 times daily; children 0.3 Gm. (15 grn.) with milk sugar as powders; aged people

0.6 Gm. (10 grn.) in syrup of orange and syrup of turpentine.

The case of lobar pneumonia is interesting. All the typical symptoms of the disease were present. Five Gm. (75 grn.) of thiocol were given during the first day, in powders of 0.5 Gm. (7½ grn.) every hour. On the third day the daily dose was reduced to 3 Gm. (45 grn.) and the next day to 2 Gm. (30 grn.). On the sixth day there was abrupt defervescence, with abundant normal, yellowish sputa. The increpitant râle returned on the seventh day, and on the twelfth day the patient had completely recovered.

The author concludes that thiocol appears to be the most active and easily administered derivative of creosote. Even children take it readily and assimilate it well, and its effect seems always to be a salutary one, both as a pulmonary antiseptic and as an appetite-producer.

MESOTAN, A TOPICAL ANTIRHEUMATIC

Mesotan (methyloxymethyl ester of salicylic acid) occurs as a yellow liquid possessing but little odor and miscible with the usual organic solvents and with oils. According to Dr. Theo. Floret,³ it is readily absorbed by the skin: a short time after its local application salicylic acid can be detected in the urine. He has used it in 120 cases as a topical antirheumatic, and says that in cases of marked rheumatism, whether articular or muscular, in which the diagnosis was beyond doubt, the drug promptly and uniformly manifested the desired effect. On the other hand, on non-rheumatic inflammations, such as result from sprains or other injury, and in gonorrheal rheumatism, the remedy proved ineffective. The best results were obtained in acute muscular rheumatism: often after a single application, without massage, the pains were considerably relieved, the entire treatment averaging three and a half days in duration; in some instances salicylic acid in one form or another was administered internally at the same time. In acute articular rheumatism mesotan gave equally satisfactory results. In three cases (severe acute multiple articular rheumatism), the remedy was employed in conjunction with the internal use of a salicylate; the combined treatment was much more effective; the course of the disease seemed to be materially shortened and attended by less pain, and complications did not occur. In chronic articular and muscular rheumatism, the author considers baths with the simultaneous use of massage and electricity the best

¹ *Wien. klin. Rundschau*, 1902, Nos. 21-22.

² *Revue internat. de la Tuberc.*, 1902, No. 7.

³ *Deut. med. Wochenschr.*, XXVIII, No. 42.

treatment. But these means are often not within the reach of the general practitioner; and here mesotan is of service: according to Dr. F., it as a rule promptly removes the pain, so that the patients after each application obtain relief for several hours and later in the treatment for longer periods. In only gout of the 44 cases did mesotan fail to have any beneficial effect; and the author believes that here perhaps the disease was really not rheumatism.

Usually up to a teaspoonful of the drug was rubbed in, two or three times a day; in the earlier cases pure, but latterly mixed with an equal quantity of olive oil, because the pure mesotan had occasionally produced vesicular eczema. No dressing with cotton or impervious material was applied. The patients first experienced a sensation of warmth or slight tingling and burning of the skin, and then the pain subsided as a rule.

STYPTICIN IN UTERINE DISEASES

Dr. Hirsch¹ has studied the effect of stypticin (cotarnine hydrochlorate) in uterine diseases, and advises his patients to take the remedy four times daily for four days before the date of the expected menstruation, and for four days during this period. The effect of the remedy increases from month to month, but it must not be discontinued as soon as the patient improves. If continued for some time, the hemorrhages grow less and less abundant. The drug may also be successfully used in dysmenorrhea, as it has some of the properties of hydrastis, while it is far less disagreeable to take. It possesses the advantage over ergotin in that it acts well when given by mouth, whereas ergotin is administered as a rule subcutaneously or by rectum. Stypticin has, in addition, a soothing effect, especially in cases of dysmenorrhea. [The usual dose in dysmenorrhea and menorrhagia is $\frac{3}{4}$ to $1\frac{1}{2}$ grn. 4 times daily in the manner described above; sugar-coated tablets are the preferable form.—Ed. M. A.]

FWLER'S SOLUTION AND ANTIPYRINE HYPODERMICALLY IN MALARIA

After employing intrasplenic injections of 6 to 10 drops of Fowler's solution diluted with about 1 oz. of sterilized water and noting the severe pains they produced, Dr. Convy² conceived the idea of replacing them by simple hypodermic injections and substituting a solution of antipyrine for the sterilized water; and this method has yielded excellent results: as a rule a single injection suffices to bring about a sudden and

lasting defervescence. 1 Cc. (16 min.) of 10 per cent. solution of antipyrine is boiled for a moment with 6 drops of Fowler's solution in a test-tube; then, after rendering the site of injection (preferably the abdominal wall) aseptic, the liquid is drawn up with a syringe and injected while still warm. The patient feels nothing but a very slight pain for about five minutes, and this may be diminished by massaging the part a little after the injection. Defervescence supervenes in five to six hours, without the least disturbance. In conclusion the author states that the syringe, test-tube, and dropper, must be carefully sterilized; and that the dose of the Fowler's solution should be increased 1 drop at each injection.

DIOSMAL

In order to obtain a preparation that would represent the therapeutic action of buchu in a concentrated and readily-exhibitable form, Dr. Paul Runge,¹ of Hamburg, first exhausts the buchu leaves with boiling ligroin of a low boiling-point, and then with boiling 70- to 80-per-cent. alcohol, until no more extractible matter is removed. The solvents are then evaporated off, and the extracts mixed. The prepared extract so obtained, and which the author has named "diosmal," is described as possessing the refreshing characteristic odor of the buchu leaves, and having a handsome green color. It may be given in the form of pills of $2\frac{1}{4}$ grn. each, or inclosed in gelatin capsules, one or more being given 3 times daily. The diosmal is indicated in all those affections in which buchu is ordinarily used.

LENIGALLOL IN NON-PARASITIC SKIN DISEASES

As is known, scrofula and rickets predispose to eczema, which habitually assumes a chronic character and resists the usual eczema treatment obstinately. In this form of eczema Dr. W. N. Clemm² has obtained specially good results from the use of lenigallol (triacyl-pyrogallol). In a 4-year old scrofulous girl with eczema of the scalp extending down over the neck, in which the systematic application of Hebra's ointment was of no avail, a dressing of 20-per-cent. lenigallol paste applied to the thickness of a knife blade caused the lesion to disappear in three days. This experience has led the author to adopt this treatment in all obstinate cutaneous affections of non-parasitic origin. He refers to a number of cases, among them an inter-trigonal eczema of years' standing, which was relieved but not cured by dusting-powders and zinc paste,

¹ *New York Med. Jour.*, LXXV, No. 20.

² *Semaine méd.*, XXII, No. 41.

¹ *Pharm. Centrallh.*, XLIII, p. 466.

² *Therap. Monatsh.*, XVI, No. 9.

but which vanished after two dressings with 20-per-cent. lenigallol paste made at intervals of two days and one day respectively. In a scrofulous and rachitic child suffering with ulcerous skin disease involving the lower extremities and nates, the initial application of lenigallol paste in three days cured the bullous eruption and dried up the ulcerated parts and diminished their size; and on other dressing with the lenigallol paste brought about complete recovery. The author also reports excellent results from the use of lenigallol in ulcers of the leg and chronic eczema of the scalp occurring in scrofulous individuals, and in gangrenous ulcers (pure lenigallol being applied), and in eczema keratoidis (50-per-cent. paste being used).

PYRAMIDON IN ASTHMA

Dr. Albrecht,¹ of Forst (Germany), relates his experience with pyramidon in a case of pulmonary emphysema with frequent and violent paroxysms of asthma. A host of remedies and inhalations had had but little effect. A dose of 0.3 Gm. (5 grn.) of the medicament given during the paroxysm abridged it, and taken two or three times daily for several days shortened and moderated the subsequent attacks and occasionally staved them off for several weeks.

EUQUININE IN PEDIATRIC PRACTICE

Dr. Rocaz,² of Bordeaux, considers the availability of this drug for administration to children, because of its almost total lack of unpleasant taste. Euquinine is the ethyl-carbonic ether of quinine, occurring as white, needle-like crystals, sparingly soluble in water, but very readily in ether, chloroform, and alcohol. The author administers it in suspension in a teaspoonful of sugar-water. It was always taken without repugnance. In several cases in which it was thus prescribed and readily taken, the administration of quinine by the mouth had been impossible. It also has the advantage of being well tolerated by the digestive tract even when given in massive doses.

Experiments to test the absorption of euquinine showed that elimination by the urine began between the first and second hour after administration, reaching its maximum after seven hours. These conclusions agree with those of Gamarelli, in Italy, except that this observer found elimination to begin from the ingestion of the drug.

Euquinine is therefore absorbed, and produces all the therapeutic effects of quinine

medication. Its indications in pediatric practice are the same as those of the alkaloid from which it is derived. Its contraindications are not so numerous, since it is better borne by the digestive organs. The dosage is somewhat higher than that of quinine. During the first year Rocaz uses from 10 to 15 centigrams a day ($1\frac{1}{2}$ to $2\frac{1}{4}$ grn.); from one to two years, 20 to 30 Ctg. (3 to $4\frac{1}{2}$ grn.); from two to four years, 30 to 60 Ctg. ($4\frac{1}{2}$ to 9 grn.); from three to six years, 40 to 80 Ctg. (6 to 12 grn.), and from six to ten years, 60 Ctg. to 1 Gm. (9 to 15 grn.).

RUBIDIUM AND AMMONIUM BROMIDE IN EPILEPSY

This double bromide of rubidium and ammonium has been tried by Dr. Laufener¹ in all the clinical varieties of epilepsy; its effect corresponds in general with that of potassium bromide, but in about one-third of the cases its sedative action is superior to that of the other bromides. The daily dose varies from 4 to 7 Gm. (60 to 105 grn.); and the author has found 4 to 5 Gm. (60 to 75 grn.) administered at night to have a satisfactory hypnotic and sedative effect. The following formula is recommended:

| | |
|-------------------------|------------------|
| Rubid. and Ammon. Brom. | 6 Gm. (90 grn.) |
| Distilled Water..... | 100 Gm. (3½ oz.) |
| Syrup Lemon..... | 20 Gm. (4 dr.) |

Every tablespoonful of this mixture contains 0.75 Gm. ($11\frac{1}{4}$ grn.) of the bromide.

TOXICITY OF SUPRARENAL PREPARATIONS

Dr. O. von Furth,² of Strassburg, cautions against the indiscriminate use of suprarenal preparations. He says the poisonous character of the active principle of the suprarenal capsule has been referred to previously by Oliver and Schäfer, Cybulski, Foa and Pellacani, Marino-Zucco, Guarniera, Gourfein, Vincent, and Blum; a few milligrams injected intravenously in animals may produce severe symptoms of poisoning, and also on subcutaneous and other ways of administration small doses may even at times produce toxic phenomena (disturbance of the circulatory and respiratory apparatus and the nervous system) which may terminate fatally. The author states that Blum recently observed diabetes to follow the use of this active principle. He therefore considers the employment of it (suprarenin, adrenalin) justifiable only in cases where its innocuousness has been clearly demonstrated by careful clinical trials in the same kind of cases.

¹ *Therap. der Gegenw.*, 1902, No. 10.

² *Amer. Jour. Med. Sciences*, CXXIV, No. 5.

¹ *Rev. de Thérap.*, CXLIV, No. 16.

² *Deut. med. Wochenschr.*, XXVIII, No. 43.

HEROIN AS AN ANAPHRODISIAC

In the frequent nocturnal pollutions of young men, followed the next morning by headache and pains in the back, Dr. A. Strauss¹ has obtained good results from the use of 1 centigram ($\frac{1}{10}$ grn.) of heroin, given at night, combined with the usual precautions of sleeping on a hard mattress, etc. In sexual neurasthenia with impotence and spermatorrhea, the results were not so satisfactory, and other remedies had to be resorted to in conjunction with the heroin. In the various painful complications of gonorrhea, good results were obtained from suppositories of heroin. Finally, in the painful erections following operations for phimosis, heroin acted more promptly than sulfonal or the bromides.

The author concludes from his experience that heroin is a valuable though not indispensable remedy in urological practice.

ICHTHARGAN IN GYNECOLOGY

Angeli² has employed ichthargan (ichthyol-silver) in a number of cases, applying it in the following forms: Vaginal capsules or ovules, each containing 0.2 to 0.25 Gm. (3 to 4 grn.) of the medicament combined with solidified glycerin; 2-per-cent. aqueous solution, by intra-uterine injection; 1-per-cent. solution in glycerin or distilled water, on tampons. He reports that he obtained excellent results in simple catarrhal and gonorrheal endometritis. Ichthargan appears to act more promptly even than ichthyol as an antiphlogistic, and to do its work with greater thoroughness, residual catarrh being less in evidence after the inflammatory symptoms have subsided.

ATROPINE METHYLBROMIDE

Atropine methylbromide, or methylatropine bromide, is an atropine derivative having the composition represented by the formula $C_{18}H_{26}NO_3Br$. It contains almost 21 per cent. of bromine, and crystallizes in white leaflets which are readily soluble in water and diluted alcohol but sparingly soluble in absolute alcohol or in chloroform. Animal experiments made by Dr. L. Vaubel,³ of Darmstadt (Germany), demonstrate that it has a prompt mydriatic effect and a weaker action on the heart than atropine sulphate. In six patients 2 drops of a 1-per-cent. solution of the compound were instilled into the eye; mydriasis set in quickly and soon disappeared—points of great value to ophthalmologists. In two other patients, 1-per-cent. solution of atropine methylbro-

mide was dropped into one eye and atropine-sulphate of the same strength into the other. Mydriasis supervened in all at about the same time; but it disappeared in the case of the eyes treated with the methylbromide within 4 hours, while in the eyes treated with atropine it was still present, together with paresis of accommodation, after 3 days.

The author administered atropine methylbromide in doses of 0.006 to 0.012 Gm. ($\frac{1}{10}$ to $\frac{1}{8}$ grn.) per day and per dose in 4 phthisical subjects to check the excessive sweating. It was given in pills, between 6 and 8 p. m. The effect was that the sweats were promptly suppressed in every instance. It is stated that atropine methylbromide does not produce the dryness of the throat and upper air-passages, common to atropine salts.

In nervous sweating occurring in two neurasthenic and one hysterical individuals, 0.006 Gm. ($\frac{1}{10}$ grn.) of the new atropine derivative thrice daily had a very good influence; and the same medication was successful in relieving sialorrhea in a neurasthenic subject.

EXTERNAL TREATMENT OF PHTHISIS

Dr. D. Turner,¹ after about seven years' experience in the treatment of pulmonary tuberculosis in private practice and in a sanitarium for consumptives, maintains that all the physiological effects of creosote or guaiacol and cod-liver oil can be obtained by external application, the combination he employs being a mixture of 4 drams of creosote or guaiacol, 1 dram of oil citronella, and cod-liver oil sufficient to make 4 oz. The citronella oil is added merely to disguise the smell of the creosote and cod-liver oil. The patient, after being hardened by repeated cold spongings for two or three days, lies on a couch, all clothing being removed. Then the body is sponged with a weak solution of sodium bicarbonate (1 dram in 1 pint of water) and dried with a soft towel. The oil mixture is then rubbed in all over the trunk, from the neck to the pelvis, back and front, the quantity used at a time being from one to two tablespoonfuls, according to size and age. In cold weather a small blanket serves to keep the body partially covered. The process occupies a quarter of an hour, and its efficacy depends very much upon the vigor of the operator; if only carelessly smeared on without being rubbed in, very little benefit will ensue. Over the abdomen some kneading is done in addition to the rubbing.

The drawbacks to the treatment are the unpleasant odor and the amount of labor

¹ Münch. med. Wochenschr., XLIX, No. 36.

² American Gynecology, 1, No. 3.

³ Wochenschr. für Ther. u. Hyg. des Auges, VI, No. 2.

¹ Lancet, 1902, No. 4129.

connected with it. Its advantages are said to be many. If the patient is feverish, the temperature generally falls a degree or more after every rubbing, the cough is easier, the appetite improves and the night-sweats cease; there is a general feeling of well-being, and the improvement in the lung goes on *pari passu* with the gain in weight. With respect to gain in weight, the author remarks that it is well known in sanitarium practice that patients may gain in weight without any corresponding improvement in the lung, and that gain of weight taken by itself is not a reliable test of the beneficial results of any treatment. It is not unusual for patients to increase in weight while their temperature is at 101 or 102° F., yet there is no real improvement in such cases.

What is especially claimed for oil massage is that it materially shortens the time of treatment. It is not recommended in advanced stages, or where there is a proneness to hemorrhages. In children the results are said to be even better than in adults. If the climatic conditions are favorable, the treatment acts like a specific, and if commenced in an early stage of the disease will generally restore the patients to health in from two to three months.

DERIVATIVES OF FORMALDEHYDE IN SKIN DISEASES

Dr. Veliamovitch¹ has employed tannoform (tannin-formaldehyde) in intertrigo in children, and declares it has no equal. He usually prescribes:

Tannoform.....4 dr.
Talcum or Starch.....4 to 20 dr.

A little zinc oxide or bismuth subnitrate may be added, but it is not necessary. The parts are dusted about four times a day and covered with a layer of absorbent cotton. Cure is said to follow within a few days.

The same excellent results have been obtained from a mixture of tannoform, zinc oxide, and boric acid in weeping eczema; dry desquamation promptly ensues without the aid of any other treatment.

In excessive perspiration of the feet, often accompanied by interdigital eczema, the author has had surprising success with tannoform: after one or two applications of a 25-per-cent. dusting-powder the itching ceased and the moist parts dried up; the fissures rapidly cicatrized, and after three or four days the trouble was completely cured. In a number of cases, tannoform not being obtainable, Dr. V. tried bathing the parts with weak solutions of formaldehyde (6 or 7 drops to 1 oz. or 1½ oz. of water), once every other day; after the bathing, cotton is

applied and changed twice daily. One or two baths are said to lead to recovery; but the method has a serious drawback: it is painful, the burning pain lasting about half an hour each time. In excessive sweating of the feet the author has also used urotropin (hexamethylenetetramine), according to the following formula:

| | |
|-----------------------|---------------|
| Urotropin..... | } equal parts |
| Boric Acid..... | |
| Tannalbin..... | |
| Bismuth Subnitrate... | |

This powder, while exerting a favorable action, has proved inferior to tannoform.

Finally, formalin (solution of formaldehyde), applied pure, has given excellent results in the treatment of torpid and infected ulcers.

APOCODEINE HYDROCHLORATE HYPODERMICALLY AS A PURGATIVE

From his physiological experiments with subcutaneous injections of apocodeine hydrochlorate in animals, Dr. W. E. Dixon,¹ of Cambridge, is induced to recommend it for trial in human beings. The drug lowers blood-pressure, produces vaso-dilatation, and increases peristaltic movements—all probably on account of its sedative action on sympathetic inhibitory ganglia; and it does not produce vomiting or give rise to other ill effects. The author suggests that a 1- or 2-per-cent. solution be used, which should be neutral and filtered before use; 2 or 3 Cc. (30 to 45 min.) may be injected for a dose.

TREATMENT OF ATROPHIC RHINITIS

Dr. James J. Kyle,² of Indianapolis (Ind.), after describing the pathology, etiology and symptomatology of atrophic rhinitis, passes on to the treatment of this affection. He says our treatment should be directed toward the prevention of the accumulation in the nose, and the restoration of the cellular activity of the mucosa. Where there is not a complete atrophy, often the removal of the hypertrophied tonsils or of adenoids will result in a cure. If the accessory cavities are found to be involved (which, if the teachings of Grünwald are correct, must be looked for as the exciting cause), they must be opened and treated.

For the removal of the secretion the author recommends Dobell's solution in spray or post-nasal douche. Very often a cotton-tipped probe will be necessary to dislodge small particles of secretion. Then, after mild cocainization, he plugs the nasal cavity high up in the attic with gauze dipped in 50 per-cent. solution of ichthylol or 5-per-cent.

¹ *Rev. de Therap.*, LXIX, No. 21.

² *Brit. Med. Jour.*, 1902, No. 2181.

² *Indiana Med. Jour.*, XXI, No. 4.

solution of ichthargan. "Ichthyol and ichthargan possess antiseptic and mucous-lesening properties inferior to no other drugs now at our disposal. In addition, they act as a stimulant and tonic to the mucosa."

The general health must be improved by iron and strychnine. If the patient can be transported to high altitudes, greater probability of early recovery is in store. Unfavorable hygienic surroundings make it very difficult to combat this disease.

UREA IN TUBERCULOSIS

Several reports on the use of urea in tuberculosis have appeared in these columns. The theory of the action of this drug is that gout and its allied diseases are antagonistic to the tubercle bacillus. The introducer of this treatment, Dr. Henry Harper,¹ of Nottingham, reviews his experience with it up to date.

He begins with 20-grn. doses, and gradually increases up to 60, 80, or even 100 grn., 3 times daily between meals, dissolved in water flavored with peppermint. In 1 to 2 per cent. of cases symptoms of gastritis may show themselves; the urea should then be discontinued for a few days. Only *pure* urea should be prescribed, not the commercial article such as is used for dyeing. In cases of mixed infection calcium sulphide in 1½- and 2-grn. pills, 4 or 5 daily, is given along with the urea; with this combination the author has obtained results which surprised him. By means of this treatment the author has reduced his mortality from tuberculosis by 75 per cent.; and he considers it valuable in all forms of tuberculosis, including tuberculosis of the bones and lupus.

ALKALIES AS ANALGESICS

According to Sir Lauder Brunton,² toothache may sometimes be stopped almost magically by putting into the cavity a little cotton dipped in a strong solution of sodium bicarbonate and thereby neutralizing the acidity present. The bicarbonate may be mixed with laudanum or cocaine, or both; but this is said to be unnecessary very often. When pain is felt not in one tooth only but in all, it frequently depends on irritation of the roots of the teeth just at the edge of the gums by acid fluid in the mouth. This pain, the author says, may generally be removed by rubbing a little sodium bicarbonate along the edge of the gums with the fingers or by thoroughly washing out the mouth with a solution of the bicarbonate, a teaspoonful to half a tumbler of

water. Dr. B. in a few minutes obtained relief from the stinging pain of boils on his own person by the local application of a strong solution of sodium bicarbonate; the internal use had given some benefit previously, but not as much by far as the direct application. This result suggests the possibility of a more extended use of alkalies in cases of neuralgia.

ASTHMA AND ITS TREATMENT

Dr. Brügelmann¹ maintains that in cases of reflex asthma due to nasopharyngeal trouble, the specialists generally do not treat the trouble radically enough. For example, the hypertrophy of the inferior turbinates should be cauterized with the galvano-cautery sufficiently to give rise to a thick cicatrix; and the other points of the nasopharynx susceptible of provoking reflex asthma by their irritation should be looked for and cauterized. We will often be astonished, the author says, to see many asthmas supposedly bronchial disappear under this treatment.

In cases of true bronchial asthma, pneumo-therapy is of paramount importance: with it can be combined inhalations (of ammonium salts to favor the expulsions of the secretions; later alum, tannic acid, etc., to dry up the mucus).

In hysterical or neurasthenic asthma suggestion gives the best results. We should persistently impress upon the patient the utter uselessness of coughing with a view to expelling the secretions; at the same time, appropriate hydro-therapeutic measures should be resorted to.

Asthma from toxemia is amenable to hydrotherapy and proper dieting.

Asthma of plethoric individuals, Dr. B. states, is very favorably modified by the administration of thyroid preparations.

Injections of morphine and dionin are recommended to arrest the paroxysms:

| | | |
|--------------------------|---------------|---------------|
| Dionin..... | I. | Gm. (15 grn.) |
| Morphine Hydrochlor. o.i | Gm. (1½ grn.) | |
| Distilled Water..... | 10. | Gm. (2½ dr.) |

Inject ½ Cc. (8 min.).

By means of combining these two alkaloidal salts, it is claimed that habituation is obviated.

The action of atropine is considered as remarkable, but the medicament is often not tolerated. Amyl nitrite, cannabis, and pyridine have very variable effects; and the application of the induced current, each pole over one of the superior laryngeal nerves, for 15 to 20 minutes, will often check a violent paroxysm.

¹ *Brit. Med. Jour.*, 1902, No. 2181.

² *Brit. Med. Jour.*, 1902, No. 2181.

¹ *Deut. Med.-Ztg.*, 1902.

MERCK'S ARCHIVES

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FOR THE GENERAL PRACTITIONER

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DECEMBER, 1902

EDITOR'S NOTES

Undesirable and Unexpected Actions of Well-known Drugs

THE general practitioner is often confounded in his daily practice by an unlooked-for effect from some well-tried medicine he has prescribed in ordinary dose. His first hasty conclusion is apt to be that either the patient has an idiosyncrasy to the drug, or that its being impure or adulterated is the cause of the undesirable action. He probably does not give due consideration to the fact that the strength of tinctures and other preparations made from the same plant sometimes differs very much, according to the place where the plant was grown, or its age; that alterations in the effect of drugs may depend much upon changes in them after being swallowed; that the time for administration may have been ill-chosen, etc. But whatever his knowledge of pharmacology, if he be a reader of the ARCHIVES he will doubtless be glad to turn to an instructive article treating of the matter in this issue. It is by that eminent pharmacologist and physician, Sir Lauder Brunton, who accounts interestingly for the abnormal actions of a number of well-known drugs.

While on this subject, it may be well to recall the words of our great master, Jacob Bigelow, uttered fifty years ago, in an introductory lecture at the Massachusetts Medical College, Boston. Among the many beautiful and deeply philosophical things he said, was this: "But, gentlemen, the agents which we oppose to the progress

of disease may by excessive or ill-timed application become themselves the pregnant sources of disease. Every prudent practitioner is bound to consider the effect and tendency of the remedy he is using, and to inquire whether the means employed to counteract the existing disease are not in their turn likely to produce evil to the patient, and if so, whether the evil will be greater or less than the disease for which they are administered. *The sudden healing of an ulcer, issue or eruption* may be followed by symptoms more serious in their character than those which have been removed. The habitual use of active cathartics, although attended with temporary relief, seldom fails to bring on or aggravate a permanent state of costiveness. . . . Opium and other narcotics are in themselves, if abused, fertile sources of disease. . . . On account of these and similar considerations, *much discretion* is needed on the part of the physician to enable him to judge rightly of the *kind* of treatment, which it may be safe and proper to employ, and of the *degree* and *amount* of that treatment, and of the requisite *length of time* for its continuance."

* * *

A Healthy Mind in a Healthy Body

Mens sana in corpore sano. If this maxim be interpreted to mean that a healthy mind in a healthy body is the highest desideratum, then no objection can be raised to it—nothing but unqualified approval can be accorded it. But it is generally used with another meaning: to convey the impression—and in this sense it is used as a motto by various "health" journals—that a healthy mind usually goes with, or is dependent upon, a healthy body. In this sense the statement belongs to the category of things that are not so. A healthy mind does not necessarily go with, nor is it dependent upon, a healthy body. To prove the first part of the proposition—that a healthy or great mind is not a necessary accompaniment of a healthy body—it is sufficient to call attention to our fistic heroes, our prize-fighters, who with magnificently developed bodies have minds in many instances not far removed from the animal. In illustration of the second part of the proposition, that great minds can exist in sickly or frail bodies, hundreds of specific instances could be cited, but we shall only mention two: those of Darwin and Virchow. The first was constantly ailing, the second was anything but a giant. And it is not only the greatness of mind that is remarkable; the tremendous energy, the wonderful, untiring patience, and the great capacity for actual

work that resided in those frail, weak bodies is still more astonishing. We might add: it is brain, not muscle, that does the work of the world nowadays.

* *

May a Mother Ill with Diphtheria Nurse Her Child?

THIS question cannot be answered off-hand. Most physicians would probably prefer to be on the safe side and take away the child from the mother's breast for as long as the disease lasts. However, two observations made by Dr. Combe-Laboissière (*Russky Vrach*) seem to show that the danger is not as great as one might imagine. He was called in to a family where the mother, a boy, and two girls, were suffering with diphtheria. The mother had the disease in a very bad form, suffering for a whole month from cardiac and renal complications, and paralysis of the uvula. During the entire period of her illness she continued to nurse a child about ten months old. The child remained perfectly well. The mother was treated with antidiphtheritic serum. Later on, he was called to another diphtheritic patient who nursed her child. He gave the patient an injection of antitoxin, and advised her to continue nursing the child. The latter remained perfectly well. The author, therefore, expresses his opinion that the milk of a diphtheritic mother is not dangerous to the child, and he even asks if it is not possible that such milk acts as an antitoxin to the child. There is nothing improbable in such a proposition.

* *

Moderation or Total Abstinence?

THE subject is too large and too important to be disposed of in an editor's note; nor shall we attempt to do it. But there is one question on which we may well touch here. It is the old argument which has done service in the hands of the opponents of drug treatment, treatment with potent drugs in particular. If a grain of strychnine is injurious, then $\frac{1}{20}$ grn. will cause one-twentieth part of the injury; $\frac{1}{100}$ grn., one-hundredth part of the injury, and so forth. If alcohol in excess is excessively injurious, then alcohol in moderation is moderately injurious. But such reasoning is fallacious. As Sir James Paget pointed out many years ago: Very large quantities of quinine may make a man, temporarily, or even permanently, deaf and blind; smaller quantities may have no such effect, but will cure the man's ague; while still smaller doses may do neither of those things—may leave his senses and his ague unaffected, but may improve his appetite. And so it is with most potent drugs. To

assume, therefore, that even very small and diluted doses of alcohol will invariably prove injurious is unwarrantable; and we think we are correct in stating that the majority of the profession is rather for great moderation than for absolute abstinence.

* *

Wonderful Virtues of a Household Beverage

THE particular virtues of — are these:

It maketh the body active and lusty.
It helpeth the headache, giddiness and heaviness thereof.

It removeth the obstructions of the spleen.
It taketh away the difficulty of breathing, opening obstructions.

It is good against tipitude, distillations, and cleareth the sight.

It removeth lassitude and cleanseth and purifieth acid humors, and a hot liver.

It is good against strengthening the weakness of the ventricle or stomach, causing good appetite and digestion, and particularly for men of corpulent body, and such as are great eaters of flesh.

It vanquisheth heavy dreams, easeth the frame and strengtheneth the memory.

It overcometh superfluous sleep, and prevents sleepiness in general, a draught of the infusion being taken; so that, without trouble, whole nights may be spent in study without hurt to the body, in that it moderately healeth and bindeth the mouth of the stomach.

It prevents and cures agues, surfeits and fevers, by infusing a fit quantity of the leaf, thereby provoking a most gentle vomit and breathing of the pores, and hath been given with wonderful success.

It strengtheneth the inward parts and prevents consumption; and powerfully assuageth the pains of the bowels, or griping of the guts and looseness.

And much more to the same effect. All these wonderful healing virtues are ascribed to—TEA, in a pamphlet printed about 1660, by one Thomas Garway, who announces at the end that he has the best tea to sell, at from sixteen to fifty shillings a pound.

This shows very beautifully, first, that panaceas and cure-alls were known before yesterday, and in other countries besides the United States; and, second, that the art of ad-writing is of rather respectable antiquity.

MOUTH WASH.—The following is very good for inflammation of the buccal mucous membrane:

| | |
|------------------------|----------|
| Boric Acid..... | 3 dr. |
| Oil Cassia..... | 1 dr. |
| Carbolic Acid..... | 1 dr. |
| Chloroform..... | 1 dr. |
| Alcohol..... | 3½ oz. |
| Oil Peppermint..... | 10 drops |
| Glycerin, to make..... | 8 oz. |

Put half-teaspoonful in half-glass of water, and use as a mouth-wash.—Dr. C. P. PRUYN (*Dental Digest*.)

Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

Solution Sodium Sulphate and Spirit Peppermint

Dr. J. A. C. writes: Will you kindly give me information on the reaction in the following prescription?

Satur. Solut. Sod. Sulphate..... \tilde{v} viii
Spt. Peppermint \tilde{ss}

The two ingredients give a mixture that can only be likened to thick slush from snow ice.

The trouble comes from the spirit of peppermint. This is made from strong alcohol; and sodium sulphate is wholly insoluble in alcohol. The addition of the alcoholic spirit to the aqueous solution of the Glauber's salt causes precipitation of the chemical in the manner described by you. Our suggestion would be, to make the saturated solution with *peppermint water* and omit the spirit of peppermint.

Books on Eye-glass Fitting

Dr. J. A. P. asks us to recommend a work on spectacles and eye-glass fitting.

There are a number of good manuals on this subject, among them the following: "Spectacles and Eye-glasses," by Phillips, published by P. Blakiston's Son & Co., of Philadelphia, price \$1.00; "Defective Eyesight: the Principles of its Relief by Glasses," by Roosa, published by The Macmillan Co., of New York, price \$1.00; and "Diseases of the Eye, and Refraction," by Gould & Pyle, containing chapters on prescribing and fitting eye-glasses, published by the first-mentioned firm at 80c.

Extractum Catholicum and Mercurius Dulcis

Dr. C. G.—The term *Extractum catholicum* which puzzled you so much is a synonym for compound extract of rhubarb. *Mercurius dulcis* is calomel. Yes, some physicians take delight in using old and obsolete terms.

Carbolated Camphor: Its Preparation, Dose, and Administration

Dr. J. E. V. writes: I should like to know how carbolated camphor is prepared, the dose of same, and what vehicle is best employed in administering it.

Carbolated camphor, known also as phenol-camphor and camphorated phenol, is prepared by triturating equal parts of gum-camphor and crystallized carbolic acid in a

mortar till liquefied. It occurs as an oily liquid, of aromatic odor. It is soluble in alcohol, ether, chloroform, and fatty oils; insoluble in water. Carbolated camphor is an antiseptic, antipruritic local anodyne, and carminative. It is used chiefly externally, in neuralgias, toothache, and furunculosis, pure, or in 50 per cent. oily solution. Internally it has not been employed to any great extent. The dose is 5 to 10 minims, best taken in capsules pure or diluted with some bland oil.

Dose of Chromium Sulphate

Dr. W. P. H. asks what the dose is of chromium sulphate.

At the late meeting of the American Therapeutic Society (May, 1902) Dr. Louis Kolinpinski, of Washington, D. C., read a paper on the therapeutics of chromium sulphate, in which he stated that from its chemical constitution chromium should possess therapeutic properties similar to those of zinc and manganese. His experiments in this line had been with the green chromium sulphate. The dose was 1 to 4 grn. three times per day, best administered as a tablet-triturate.

Saleratus

Dr. E. J. M. writes: Will you please inform me through the ARCHIVES whether 'saleratus' is sodium or potassium bicarbonate.

"Saleratus" is the name applied originally to an impure *potassium* bicarbonate used for culinary purposes. We now speak of a "potash saleratus" and a "soda saleratus," both of which distillers and brewers may prepare with great facility by suspending a solution of potassium or sodium carbonate in the fermenting tun, where it is constantly surrounded by an atmosphere of carbonic acid. The composition of these compounds as thus prepared is usually between a carbonate and a bicarbonate. The term "saleratus" does not occur in any pharmacopœia at the present day; and druggists in general dispense *sodium* bicarbonate when "saleratus" is called for.

We do not publish any visiting lists or other account-books for physicians. A number of such pocket-books are referred to in our "Book Reviews" department of this issue.

CHRONIC DYSENTERY.—Dr. J. L. Jelks has obtained most benefit from iodoform and ichthyol made into suppositories and passed through the sigmoidoscope into the sigmoid. This is especially indicated in tubercular conditions, but has its use in any form of proctosigmoiditis or colitis.—*Jour. Am. Med. Assn.*

Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

A Fact in Treatment.—There can be no doubt that far too often physicians administer drugs for the relief or removal of symptoms which are not sufficiently harmful to require relief, or give medicines with the object of curing a disease which is incurable except by nature's methods. It is not recognized that many maladies must run their course, and that the function of the physician is to guide the patient through the illness and not to attempt to arrest the storm or to modify its peculiarities, although he may very frequently with advantage control manifestations and results which if they were uncontrolled might result deleteriously. In no disease does it behoove the physician to take greater precaution that his treatment in no way produces evil results than in typhoid fever, a malady which must of necessity run a certain course, which cannot be aborted, and which at most can only be modified in the severity of its manifestations. A similar statement may be made in regard to pneumonia. For this reason we have read with much interest a brief article by Dr. Cheney, of San Francisco, in which he speaks of the methods which should be instituted in the treatment of lobar pneumonia in infants, and in which, after pointing out that the disease is one which runs a definite course, he indicates the remedies which may be employed to modify symptoms which are thought to be dangerous; but more than all, emphasizes the fact that infants in particular suffer more from vigorous medication in some instances than they do from the disease itself. It is never to be forgotten that in addition to the influence of a medicine upon the particular symptoms for which it is given, it may influence the digestive tract, the kidneys, or the bowels, or even the heart and lungs, in a way which is undesirable, and care should be taken when deciding upon the employment of a remedy that its contra-indications do not become a factor of greater importance than the indications for its use.—*Therap. Gazette.*

International Standard for Potent Remedies.

—Among the basic principles discussed and subsequently adopted by the International Convention for the Unification of the Formulas for Heroic Medicines, which met at Brussels, September 15, none perhaps is of more direct interest to the American medical practitioner than that establishing at 10 per cent. the strength of tinctures of active or potent remedies. This is especially opportune with the present revision of the U. S. Pharmacopeia. The importance of the subject is emphasized in an article on tincture of aconite read at the meeting of the American Pharmaceutical Association held recently in this city by M. I. Wilbert, apothecary to the German Hospital. He points out that the U. S. P. tincture of aconite is seven times as strong as the British preparation, three and a half times as strong as the German preparation, and nearly double the strength of the French preparation. That it has been recognized that the strength of the U. S. P. tincture is excessive is shown by the repeated reduction of the percentage. The tincture originally represented 65 per cent. of the crude drug, and was reduced in 1850 to 50 per cent. and in 1860 to 40 per cent, where it remained until 1890, when it was reduced to 35 per cent. We understand that there is now

a movement to return to 40 per cent, for no reason other than that 40 per cent. is the official strength of the tincture of veratrum viride. The tinctures of many other potent drugs are from 50 per cent. to 100 per cent. stronger than the proposed international standard. These variations in strength become of very serious moment when we consider the potency of the preparations, their widespread use, and the fact that foreign medical literature is freely abstracted and liberally commented upon in medical journals. Comparatively few physicians are in a position to familiarize themselves with the differences in the strength of galenic preparations in different countries—whence the possibility of serious consequences from the use of potent remedies in dosage advocated in foreign publications. A uniform standard should be adopted, and this standard should be international as well as national. For instance, were tincture of aconite reduced to the same strength as tincture of belladonna, it could be administered in the same dose, and—a matter of some importance—the difference between the average medicinal dose and the lethal dose would be greater. The facts cited should enlist the attention of the committee on the revision of the Pharmacopeia, with a view to the adoption of the strength-percentage recognized by the Brussels convention.—*Amer. Medicine.*

Nature of Typhoid Fever.—The recent successful bacteriologic studies of the blood in typhoid fever have given us such results that some of the older conceptions of the nature of this disease must be remodeled. It appears from these investigations, of which there is now at hand a goodly number from various places, that bacilli may be cultivated from the blood in more than 80 per cent. of the cases and that the earlier in the disease the examination is made the greater the frequency of bacilli in the blood. This perhaps at first somewhat unexpected turn of events is largely due to modifications in the technic employed. In the earlier part of the bacteriologic study of typhoid fever only small quantities of blood were used, and generally the inoculations were made directly on solid media or in small quantities of broth. Such small quantities of blood—at most a few drops—might not happen to contain viable bacilli, and in the next place it has been thought that the blood was not sufficiently diluted to interfere with or suspend the bactericidal action that it has on typhoid bacilli *in vitro*. In all the more recent work of this kind larger quantities of blood are taken directly from some vein, usually at the elbow, and mixed with large quantities of media. Liquid media have been employed by most of the workers, but others, like Schottmüller (*Münch. med. Woch.*, 1902), who has done a great deal of work in this line and examined in this way between one and two hundred cases, mix the blood directly with melted agar at a temperature of 45 C., which is then poured into plates. Schottmüller believes this method advantageous because it gives a clearer idea of the number of bacteria present and permits of a more ready recognition of contaminations. At the same time it would seem that the slowness with which the colonies spring up in many cases might be a disadvantage. He finds further that a dilution of the blood in the proportion of one to three is sufficient to yield colonies of bacilli when present. The puncture of veins for the purpose of withdrawing blood is not a very painful procedure and on the whole free from risk when done under usual aseptic conditions. Schottmüller has cultivated the bacilli from the blood as early as the second day of the fever, before the appearance of

specific agglutinins, and on several occasions within the first twenty-four hours of relapses after two or three weeks of normal temperature. During the acme of the disease bacilli are numerous in the blood, but when the fever subsides bacilli are no longer demonstrable. It seems, also, that at least many of the ephemeral rises of temperature in the course of convalescence from typhoid fever are associated with a short reappearance of bacilli in the blood. Schottmüller has found further, that the number of colonies developing on the plates of blood mixed with agar stand in a certain relation to the height of the fever and the severity of the cases, so that in addition to its evident diagnostic value the method also has prognostic significance. Now the early and practically constant presence of typhoid bacilli in the blood in typhoid fever, and the evident relationship between the number of bacilli present and the severity of the symptoms indicate that the whole disease is dominated, so to speak, by this bacillemia. Formerly it was taught, and this teaching is still largely current, that in typhoid fever the essential point was the localization of the bacilli in the lymphatic apparatus of the intestines, and multiplying there they eventually made their way into the blood in relatively small numbers, more stress being laid on the absorption of toxins. But the occurrence of typhoid fever without intestinal lesions has shown already that these lesions are in reality not essential; furthermore, their extent and distribution are not proportionate to the severity of the disease; and now the results of bacteriologic studies of the blood seem to make it clear that in typhoid fever bacteriemia plays a most prominent rôle. Schottmüller suggests that the bacilli, as a rule, enter by way of the intestines, with or without evident lesions, and that the incubation period corresponds to the time required for the bacilli to pass from the intestines through the mesenteric glands into the blood. He also believes that many of the intestinal lymphatic lesions are the result, not of primary invasion from the intestinal tract, but of hematogenous invasion, and in favor of this he urges the sudden and uniform relighting in many places of the process in the case of relapses. Be this as it may, the conception of typhoid fever as a bacteriemia surely will lead to less importance being given to the intestinal treatment of typhoid fever than in the past. Finally, mention should be made of the fact that since the introduction of bacteriologic examination of typhoid blood, it has been made clear that in the past typhoid fever has been made to stand for various related yet distinct infections caused by the so-called paratyphoid organisms. On the whole, it seems that the well-trodden field of typhoid fever still contains unexplored regions that will yield rich treasures to the clinician working with modern laboratory methods.—*Jour. Amer. Med. Assn.*

An Improved Method of Percussion.—The limitations of percussion in thoracic and abdominal disease are quite well understood. In the majority of instances percussion is carried out by tapping with the fingers of the right hand upon the backs of the fingers of the left hand laid flat upon the part. There are certain limitations to percussion when performed in this manner that do not obtain when some substance other than the fingers is brought between the wall of the cavity to be percussed. The fingers may not fit the part accurately. They inevitably cover a considerable surface, and consequently the vibrations are conducted over a considerable area. Various substitutes for the finger, made of rubber and celluloid, have been devised, which have for their

general purpose the limitation of the area which is to be percussed. The disadvantage of these, as compared with the finger, is that the sense of resistance which is of such value in diagnosis is left out.

A method devised by J. Plesch, of Budapest, combines both methods to advantage. He uses the middle finger of the left hand, but instead of laying it flat upon the chest, only the tips of the fingers are brought in contact with the part to be percussed. The finger is bent at a right angle at the second joint and the percussion is made over the first phalanx. In this way the vibrations are limited to a small area, and are accurately brought out; at the same time the vibrations are conducted to a considerable depth into the tissues, because of the limitation of the surface application. More precise data are furnished by this method of percussion than by the usual means. The value of the method has been proven by Plesch, who has confirmed the results by radiosopic examination.—*Medicine.*

Drugs Producing Cutaneous Eruptions.—

The list of drugs which may produce skin eruptions in susceptible patients is quite long. In such list will be found quinine, arsenic and antipyrine, very commonly used drugs, and with the administration of which these accidental eruptions are oftenest associated. In some cases quinine always causes a rash to appear, and likewise in some instances upon the use of arsenic or antipyrine. Then again, only at certain times will such unusual manifestations appear, depending upon the drug, the eliminating functions of the patient, and whether the medicament is taken before or after meals. Besides the drugs just mentioned cutaneous eruptions may follow the internal employment of carbolic acid, salicylic acid, the salicylates, benzoic acid and the benzoates, thalline, anti-febrin, phenacetin, lactophenine, salol, naphthol, analgine, exalgine and the antitoxic serums. Many of the essential oils also have this influence.—*Clin. Review.*

Concentrated Foods.—There is a prevalent idea in the profession that foods can be concentrated. This thought finds its reflection in the advertising pages of medical journals in the highly-colored claims of manufacturers of prepared foods. The three main constituents, proteid, carbohydrate, and fat, are represented by such typical examples as meat, sugar, and fat. Meats may have their water driven off and be reduced to powder form; in this way their bulk is diminished to about one-fifth their former quantity, but in order to be taken and absorbed they must have the water restored to them. Sugar is practically water-free, and represents the most concentrated form of carbohydrate available. Fats in the form of butter contain nearly 90 per cent. of carbohydrate. A greater concentration of fat than is contained in these natural products is not possible, and for the most part the manufactured-food products contain far less units of energy than do the natural products. About the only purpose for which concentrated foods are useful is in furnishing the nutriment in a more palatable form, or else, if it has been acted upon by certain digestive ferments, in such a way as to facilitate its absorption. As a matter of fact, it is rare that predigested foods are required. If a stomach is capable of passing the food on into the intestines, there is such an excess of digestive capacity in most individuals that it will be dealt with in such a way as to permit of its absorption.—*Medicine.*

Book Reviews

REYNOLDS & NEWELL'S PRACTICAL MIDWIFERY: A Text-Book for Practitioners and Students. By EDWARD REYNOLDS, M.D., and FRANKLIN S. NEWELL, M.D. There is certainly no scarcity of books on obstetrics. The authors recognize this fact, but excuse the appearance of their text-book first, by the fact that an earlier volume which aimed only to explain the technical details of obstetrics was favorably received, and second, by the opinion of the publishers, that a more extended work based on the same lines, would meet a want in the literature of the subject. The volume presents a pretty thorough exposition of the science and art of obstetrics, though, of course, it does not contain—and in the nature of things cannot contain—anything very original. The treatment is rather dogmatic, but this fault, the authors state, has been committed intentionally in the belief that one justifiable plan of treatment is likely to be of more benefit to students than a discussion of the pros and cons of many methods. The illustrations are excellent and, from the printer's and bookmaker's point of view, the volume is irreplaceable. (Lea Bros. & Co., Philadelphia and New York. 253 engravings and 3 colored plates. 531 pages. Price, cloth, \$3.75.)

THE "MEDICAL NEWS" VISITING LIST FOR 1903. The blank pages of this wallet-shaped book, which is issued in four styles, are arranged to classify and record memoranda and engagements of every description in the practice of the physician, surgeon or obstetrician. The work opens with thirty-two pages of printed data, including an alphabetical table of diseases with approved remedies, a table of doses, sections on examination of urine, artificial respiration, incompatibles, poisons and antidotes, a diagnostic table of eruptive fevers, and a full-page plate showing the incisions for ligation of the various arteries. (Lea Bros. & Co., Philadelphia and New York. Price, \$1.25.)

THE DEVELOPMENT OF THE HUMAN BODY. This is a manual of human embryology, by J. Playfair McMurrich, A.M., Ph.D., professor of anatomy in the University of Michigan. The author believes that a lack of information regarding the causes which have determined the structure and relations of the parts of the body is responsible for the student's difficulty in mastering descriptive anatomy. It has, therefore, been his aim to present a concise statement of the development of the human body and a foundation for the proper understanding of the facts of anatomy. Part I treats of general development: the spermatozoön and spermatogenesis; the ovum and its maturation and fertilization; the development of the external form of the human embryo, etc. Part II deals with organogeny: the development of the integumentary, muscular, circulatory, lymphatic, urinogenital, and nervous systems; of the connective tissues and skeleton; of the digestive tracts and glands, organs of respiration, of special sense, etc. The work bears evidence of great care in its compilation, and of the author's mastery of his subject. There are 270 well-executed illustrations, some of which are in colors. (P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia. 527 pages. Price, cloth, \$3 net.)

THE PHYSICIAN'S VISITING LIST FOR 1903 (Lindsay & Blakiston's) has entered upon the fifty-second year of its publication. Two new features distinguish this little pocket-record book

this year: the pages on incompatibility—chemic, pharmaceutical, and therapeutic, and the page on the immediate treatment of poisoning. In addition to these and the blank pages for accounts, etc., are included a calendar, the metric system, table for converting apothecaries' weights into grams, dose-table, and a new table for calculating the period of utero-gestation, etc. (P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia. Price, for 25 patients per day or week, \$1; for a greater number, in proportion.)

DIE KRANKHEITEN DER VERDAUUNGSORGANE IM KINDESALTER. Von Dr. Ernst Schreiber, Privatdocent an der Universität Göttingen. As is known, diseases of the digestive organs constitute with the infectious diseases the most frequent cause of death in children. In the work before us the author has succeeded in giving a very instructive and faultless picture of this most important branch of pediatrics. Separate chapters are devoted to (1) diseases of the mouth and pharynx, (2) diseases of the esophagus, (3) diseases of the gastro-intestinal tract, (4) diseases of the peritoneum, (5) diseases of the liver, (6) diseases of the gall-bladder and bile-ducts, (7) diseases of the spleen, and finally to (8) diseases of the pancreas. The precise and clear manner of presentation cannot fail to be appreciated by the practicing physician; the theoretical side of the subject receives but little attention. The volume is calculated to prove a valuable work of reference to the specialist in digestive disorders of children, as well as a reliable informant to the general practitioner and medical student. (A. Stuber's Verlag, Würzburg, 1902. Pages xii-293. Price, cloth, marks 6.40.)

THE PHYSICIAN'S PROTECTIVE ACCOUNTANT. This is a pocket account-book and visiting-list that has won the commendation of many practitioners, as affording means for keeping accounts completely and simply. The name and address of the patient is entered plainly on a page of the visiting-list, where there is provision for entering services during the month. Then there is a ledger for monthly balances, a cash book, a page for memoranda, and provision for obstetrical records. (The Clinic Publishing Co., Ravenswood Station, Chicago. Price—"accountant" ledger, twelve visiting-list sections, and leather case—\$2.)

TYPHOID FEVER. By J. T. Moore, M.D., professor of theory and practice of medicine, Hamline University, Minneapolis. Impressed by the fact that most valuable conclusions of different writers on the treatment of this malady were scattered among different works, Prof. Moore has striven to collate these methods in one practical monograph. Results from his own experience, however, are not neglected. He takes issue with some of the authorities, for instance on the use of intestinal antiseptics, the good effects to be obtained from some of the more modern of which he establishes. The work is comprehensive, dealing with etiology, histology and pathology, symptomatology, complications and sequelae, diagnosis and prognosis, and treatment. (G. P. Engelhard & Co., Chicago. 159 pages. Price, \$1.)

DISEASES OF THE SKIN. By Alfred Schalek, M.D., instructor of dermatology, etc., in Rush Medical College, Chicago. This is the latest work issued in Lea's Series of Medical Epitomes, which have a reputation for being clear with all their comprehensive brevity. Dr. Schalek has divided the book into two main parts, under which are set forth the fundamental facts of dermatol-

ogy. General considerations occupy the first part, and the second is devoted to an alphabetically arranged description, with treatment, of the various skin diseases. At the end of each chapter are questions arranged for quizzing. It will be found a handy volume, in which the methods and medicaments prescribed have the sanction of good modern authorities. (Lea Bros. & Co., Philadelphia and New York. 12mo., 225 pages, and 34 illustrations. Price, cloth, \$1 net.)

PRACTICAL GYNECOLOGY, OBSTETRICS, AND THE MENOPAUSE. By A. H. P. Leuf, M.D., Philadelphia. This book consists of a revised and enlarged reissue of three series of articles that appeared in *The Medical Council*, and which attracted much attention because of their casting aside of many fetiches in gynecologic practice and their original treatment. Part I is entitled "The General Practitioner His Own Gynecologist." The slight cost of the instrumental outfit really required is shown, and then follow chapters on examinations, diagnosis, and treatment, all relating to practices that in the author's hands have proved most successful. Part II, "Common Sense in Obstetric Practice," contains the boiled-down wisdom of one who has spent over twenty years in the treatment of various stages in and complications of pregnancy and childbirth. Part III deals with a subject neglected and not well understood by the profession, "The Change of Life in Women," and contains much of helpful suggestion toward the easing of the ills incident thereto. The work is not at all pretentious, containing no illustrations and not a very complete index—this latter being mentioned because we believe this book should be handy on the doctor's desk for reference or odd-minute perusal. (Office of "The Medical Council," 4105 Walnut street, Philadelphia. One vol. of 326 pages. Price, \$2.50.)

THE PHYSICIAN'S POCKET ACCOUNT BOOK, by J. J. Taylor, M.D., consists of a manilla-bound book of 208 pages, $4\frac{1}{2}$ by $7\frac{3}{4}$ inches, enclosed in a leather case. It is claimed to be the only single-book system on the market, no posting in a ledger being required. A few good business suggestions are included. It is divided into eight parts—accounts brought forward, accounts of professional services, obstetric, vaccination, and death records, and cash account. ("The Medical Council," Philadelphia, Pa. Price, postage paid, \$1.)

TRANSACTIONS OF THE STATE MEDICAL ASSOCIATION OF TEXAS. The minutes of the thirty-fourth annual session of this association constitute a handsome, cloth-bound volume of 587 pages. There are many papers of interest and value included, which had been presented at the different sections. Dr. H. A. West, of Galveston, is the secretary of the association, and has charge of the publication of the proceedings.

THE PRINCIPLES AND PRACTICE OF BANDAGING. By Gwilym G. Davis, M.D., assistant professor of applied anatomy, University of Pennsylvania. This is practically a new work, though based on a previous one by the same author, issued in 1891. The illustrations, which are from original drawings by the author, were redrawn, and the manuscript was rewritten. It is divided into three parts: the roller bandages, the tailed bandages or slings, and the handkerchief bandages. Surgeons and others in these days not being so well informed in methods of bandaging and turns as they were formerly, this work is intended to teach the principles embodied therein. The illustrations are numerous and clear, and the explanations explicit

and simple. (P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia. Price, cloth, \$1.50.)

L'EAU DANS L'ALIMENTATION. Par F. Malméjac, Pharm. D., Pharmacien de l'Armée. Préface de M. F. Schlagenhaufen, Directeur honoraire de l'Ecole supérieure de Pharmacie de Nancy. In this volume the author gives the results of his investigations on the value of drinking-water, made during the past twenty years. The work is divided into five parts. Part I treats of water in general, impurities in water, and the means of detecting the latter by analysis. Part II is devoted to the methodical and detailed study of organic matter in water. Part III treats of the germs in water, and of the meaning of the results obtained by bacteriologic examination. Part IV is devoted to the value of various soils as filtering media; and Part V treats of the important question of purifying water. The work as a whole does justice to an all-important yet much neglected subject. (Felix Alcan, Paris. 312 octavo pages. Price, cloth, 6 francs.)

THE MATTISON METHOD IN MORPHINISM. In this brochure the author describes "a modern and humane treatment of the morphine disease." The various methods are briefly reviewed, before Dr. Mattison calls attention to his own, which consists mainly in producing nervous sedation by means of sodium bromide, meeting reflex symptoms by codeine and the insomnia with trional. Used with a tonic régime, it is claimed that this treatment suffices in many cases, and secures two leading objects—minimum duration of treatment and maximum freedom from pain. (J. B. Mattison, M.D., medical director of the Brooklyn Home for Narcotic Inebriates. Price, cloth, \$1.)

THE PUBLIC AND THE DOCTOR. By B. E. Hadra, M.D. This little work is intended "to enlighten the masses as to medical matters, to help to subdue quackery, and to assist the rational physician in his many troubles with the ignorant and uninformed." It is written by a regular physician, who has no axe to grind or proprietary preparation to boom. It is intended to have doctors distribute it among their clients, and is therefore not to any extent scientific. We like the idea immensely, and commend the little book to our readers, as one whose general distribution would do much to enhance the conscientious practitioner in the eyes of the people, and correspondingly depreciate the "bluff" and the "quack." Perhaps a second edition would be improved by giving a little deeper insight into matters medical, this to be regarded as a primer and the edition-to-be as a first reader. An improved typography, and mayhap a little in the way of illustration, would give the work added dignity. (B. E. Hadra, M.D., Dallas, Tex. 149 pages, 6 x 4 in. Price, 50 cents.)

Pamphlets Received

Würzburger Abhandlungen aus dem Gesamtgebiet der praktischen Medicin.—Vol. II, No. 9: "Ursachen und Behandlung der Kehlkopfstenosen im Kindesalter," von J. H. Spiegelberg. Vol. III, No. 1: Die Magen-Darmkrankheiten im Säuglingsalter, von Docent Dr. Trumpp. Vol. III, No. 2: "Über Herzmuskelerkrankungen," von Prof. Dr. D. Gerhardt. (Würzburg. A. Stuber's Verlag. Einzelpreis pro Heft M.—75.)

Literature from Schering & Glatz, New York, as follows: Formalin Lamp and Disinfectant; Anusol; Trikresol; Glutol; Urotropin; Collargol; Sublamine.

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Miscellany

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MALPRACTICE SUITS BY CHARITY PATIENTS.—An examination of the records of Cook County, Ill., shows that a large proportion of the malpractice suits brought against physicians have been by charity patients, who were operated on or treated in a general hospital as charity cases, the attending physician or the hospital receiving no compensation for the care and attendance. There have been numerous court decisions of late dealing with the relations of charity patients to the institutions of which they were inmates. Some of these decisions have held that patients who paid for their maintenance in whole or in part were subject to a somewhat different rule than those who were received purely as charity patients. In actions against the institutions it was held that the payment on the part of the patient established a contractual relation with the institution. Such view of the case has been rejected by some courts with the statement that it is intolerable that a degree of protection should be extended to a paying patient which would not be accorded to one who did not pay. A broader and more correct view in defining the relation has been taken by most courts, these holding that a charity is not liable to a patient whether he paid or not, as it is in effect a diversion of a trust fund from the purpose for which it was designed. Such decisions have held that the trustees of a charity are responsible for the selection of reliable agents in the administration of the charity, and only in so far as they are liable to the patients. In every case in which a suit has been brought by an inmate of a hospital against a member of the staff, it has been defended upon the ground that he was not guilty of malpractice, having possessed and exercised that degree of care which the law requires in the discharge of his duties to the particular case. So far as we are aware, there has been no effort on the part of the defendants in these cases to shift the degree of responsibility because of their relation to a public charity or a charity patient. It is not for us to suggest what rule of law should be adopted to protect physicians from the unwarranted actions of malpractice brought against them by charity patients, but the inequitable nature of most of these suits is apparent. They are brought by not the most reputable members of the legal profession, frequently upon the most flimsy evidence, and subject the physician to great expense. Surely there should be some way of distinguishing between a charity patient in a public institution in which a physician is a mere official and a patient who seeks him voluntarily and compensates him for his services. The cases differ so radically in their fundamental relations that it is inequitable to give them the same rights in an action for malpractice.—*Medicine.*

BUBONIC PLAGUE IN CALIFORNIA.—The Conference of State and Provincial Boards of Health of North America, at the annual meeting held in New Haven, Conn., Oct. 28-29, passed the following resolutions, preceded by a long preamble reciting the history of the bubonic outbreak in California:

Whereas, bubonic plague has been present in California since March, 1900, information as to the extent of the disease being withheld by the local authorities, no effective measures of restriction having been put into operation, . . .

And, Whereas, Thirty of these cases have oc-

curred since July 13, 1902, no information as to their origin or exact location having been furnished, no effective steps having been taken to restrict the spread of the disease, the City Board of Health of San Francisco being helpless, and the *mala fides* of the State Board of Health of California having been fully established by the foregoing history, supported by documentary evidence in the possession of this conference: therefore,

Be it Resolved, That the Conference of the State and Provincial Boards of Health of North America views with abhorrence the irretrievable disgrace of the present State Board of Health of California, and pronounces the plague situation in California a matter of grave national concern; and,

Be it Further Resolved, That the National Conference of State and Provincial Boards of Health of North America does hereby advise the various State Boards of Health of the United States to consider the propriety of calling upon the Surgeon-General of the United States Public Health and Marine Hospital Service to arrange at the earliest possible date a joint conference for the purpose of eradicating plague from the United States.

JUS' KEEP ON KEEPIN' ON.—

If the day looks kinder gloomy
An' your chances kinder slim;
If the situation's puzzlin'
An' the prospects awful grim,
An' perplexities keep pressin'
'Till all hope is nearly gone,
Jus' bristle up and grit your teeth,
An' keep on keepin' on.
Fumin' never wins a fight
An' frettin' never pays:
There ain't no good in broodin' in
These pessimistic ways;
Smile jus' kinder cheerfully
When hope is nearly gone,
An' bristle up and grit your teeth,
An' keep on keepin' on.
There ain't no use in growlin'
An' grumblin' all the time
When music's ringin' everywhere,
An' everything's a rhyme,
Jus' keep on smilin' cheerfully,
If hope is nearly gone,
An' bristle up an' grit your teeth,
An' keep on keepin' on.
Diet. & Hyg. Gaz.

SHORTENING THE COLLEGE COURSE.—Another suggestion for shortening the college course comes from President Hyde, of Bowdoin College, who states that most of the distinguished alumni of that institution graduated at about the present average age of entrance, and were well launched on their professional careers at about the age at which the average student now graduates. He mentions a number of eminent men who graduated at the age of 17, 18, and 19, while at present the average of graduation is 23. He finds that the requirement for the bachelor's degree in most colleges, stated in hours of work, is about 54, that is, eighteen courses each extending over an entire year for three hours each week. The present system of ranking as adopted in most colleges is as follows: *a*, excellent; *b*, good; *c*, fair; *d*, poor, and *e*, not passable. His plan is to have quality count as well as quantity for the bachelor's degree. He proposes to let an hour in the course for which the student receives *d* count 1 toward the requisite 54 units, a *c* hour 1.1, a *b* hour 1.2, an *a* hour 1.25. No man shall be allowed to get

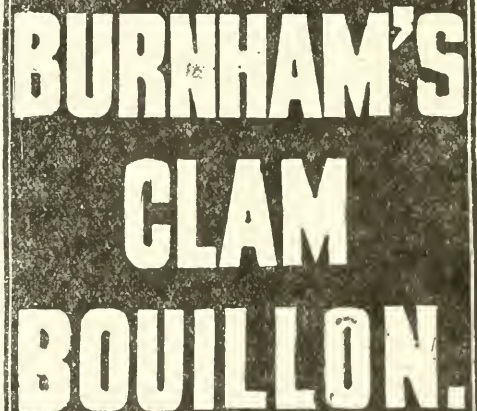
his degree in three years on *d* hours only, neither may he take it on a majority of *d*'s and a few *c*'s. If, however, he can get enough credit on his courses to retain the requisite 54 units in 51 hours or less (that is, 17 three-hour courses or less), he may be allowed to graduate in three years. He estimates that a man of average ability and somewhat more than average application would take his degree in three years on something like eight *d* hours, twenty *c* hours, and twenty *b* hours, forty-eight hours in all, or sixteen three-hour courses; six courses in one year and five in the other two. This would not be an excessive amount of work except possibly for one year. By this plan students would do no more work each year than they are now doing under the present four-years plan, but they would get credit for doing it extremely well in the form of a substantial reduction in the quality of work required. They would have just as much time for athletics, society, and the management of college enterprises. A student could be a high scholar without being forced to become a grind in consequence. This plan has certainly much to commend it to the attention of educators. A professional man cannot claim to be thoroughly educated without preliminary college course. But the four-years course with the present requirements for entrance is an undue burden on parents, delays self-support too long, postpones matrimony, and brings men belated to their profession. The evil is especially great in the medical profession, in which post-graduate hospital and laboratory work is so important. The plans which have been suggested in the past, such as allowing the fourth year in college to count as the first year in a professional school, or allowing the student to take summer sessions' work to count for one year, all have their disadvantages. The plan of President Butler, of Columbia, to give the art degree after two years' study cheapens the college course greatly and robs it of value out of proportion to the shortening of time. This plan of President Hyde's has other decided advantages beside the shortening of the course. The stimulation of the student by offering a premium for better quality of work would have its decided moral as well as intellectual influence. The interested discussion on the shortened course of college study during the past year, with many valuable suggestions from prominent educators, indicates that the shorter course must soon become an established fact, and we believe that some way will be devised by which this can be accomplished without cheapening the degree or unduly lessening its educational value.—*Amer. Medicine*.

SOME FACTS ABOUT VACCINATION (Concluded.)
—I do not hesitate to say that vaccination, repeated till the susceptibility to vaccine is exhausted, is an absolute protection against smallpox. This is the protection given the employees in the Chicago Health Department while they are handling and nursing the sick and burying the dead from smallpox, and in no instance has any of these thus employed contracted smallpox. This is the protection given the 3,200 policemen of Chicago, who, next to the employees in the health department, are the most exposed to smallpox of any class in the city. No case of smallpox has occurred among the policemen of Chicago in the ten years I have been in the health department. Vaccination on entering the school, and again seven years later, is the protection from smallpox given the 265,000 school children of Chicago, and in ten years but 7 cases of smallpox have occurred among the school children, and all of these

(Continued on p. xiv)

WOMEN IN PREGNANCY

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(Continued from p. xiii)

children were in school with a false certificate of vaccination. In one instance last year a child in school with a false certificate attended school two weeks while he had a mild form of smallpox and but one child in the school took the disease, and this child also was in school with a false certificate. No vaccinated school child in the Chicago schools has had smallpox during the last ten years, though Chicago suffered a severe epidemic of smallpox in 1894 and 1895, and has had a mild, almost continuous epidemic of the disease for the past three years. During the last two years more than 600 medical students have been permitted to enter the Chicago Isolation Hospital for the purpose of studying smallpox at the bedside, where they were thoroughly exposed to the disease in all forms and stages. Not one of these students contracted the disease. Before permitted to enter the hospital each student was required to have a vaccination, and if the vaccination was more than a few months old, three revaccinations. I offer the experience of these students as proof that vaccination with revaccination gives absolute protection from smallpox. I never saw nor heard of the vaccinated members of a family having smallpox while the unvaccinated members of a family escaped the disease. Scores of times I have sent all the unvaccinated members of a family to the hospital sick with smallpox while all other members of the same family who were vaccinated escaped the disease. This is not an uncommon occurrence. I never have seen a case of smallpox in a person who has had a typical vaccination within nine years, though I am aware that it sometimes occurs.

From March 9, 1899, to June 5, 1902, there were 591 cases of smallpox in the Chicago Isolation Hospital. Of these 535 never had been vaccinated; 8 had typical old marks made in childhood from 16 to 50 years previous to the attack; 48 had some kind of an old, doubtful or imperfect mark, said to have been the result of a vaccination performed many years before. Not one of the 591 persons had been vaccinated in accordance with the requirements now known to be necessary for protection against smallpox. All patients were carefully examined by three experienced physicians for evidence of vaccination, and the record here given can be relied on as correct. These figures show that over 90 per cent. of the cases came from the few unvaccinated who are either too ignorant, too careless, or too stubborn to avail themselves of the positive protection to be had by vaccination.

I wish to make a plea for a restudy, from original observation by medical men who meet smallpox, of the subject of vaccination in relation to its protective influence. Throw aside the doubtful records. Take the word of no one as to whether he was vaccinated or not. Examine the person for a scar and record the finding. Eliminate all sources of error. A restudy for the accumulation of new and more accurate knowledge will remove the last objection to vaccination. Vaccination is now more broadly accepted than any other one great idea that has obtained hold in the minds of men, not excepting the Christian religion. There are dissenters in religion; there are those who dissent to every proposition under the sun. There will, however, be left no cause of dissension to the virtue of vaccination when the existing evidence is examined and properly recorded.

At the close of last year Chicago was found to be menaced by smallpox which was prevalent in a vast territory surrounding the lower and upper lake regions. To vaccinate and keep vaccinated the large floating lodging-house population was

one of the many problems before the health department. Following the policy of the department of educating the people in matters of sanitary importance, "A Vaccination Creed" and a supplement to this creed were prepared, giving correct information on the subject of vaccination for the education and benefit of the lodging-house patrons.

The creed, the outgrowth of experience, was formulated and printed on a card 10x14 inches, and reads as follows:

A VACCINATION CREED

We, the Undernamed, hereby publicly Profess our firm Belief—based on positive Knowledge, gained through Years of personal Experience and Study of Smallpox and Vaccination—

FIRST. That true Vaccination—repeated until it no longer "takes"—ALWAYS prevents smallpox. NOTHING ELSE DOES.

SECOND. That true vaccination—that is, vaccination properly done on a CLEAN arm with PURE lymph and kept perfectly CLEAN and UNBROKEN afterwards—never did and NEVER WILL make a serious sore.

THIRD. That such a Vaccination leaves a characteristic scar, unlike that from any other cause, which is recognizable during life and is the ONLY conclusive evidence of a Successful Vaccination.

FOURTH. That no untoward results ever follow such Vaccination; on the other hand, thousands of lives are annually sacrificed through its neglect—a neglect begotten of LACK OF KNOWLEDGE.

ARTHUR R. REYNOLDS, M.D.,

Commissioner of Health, Chicago.

HEMAN SPALDING, M.D.,

Chief Medical Inspector, Dept. of Health.
December, 1901.

This creed placard was posted up in all the lodging houses in Chicago. A note at the bottom of the poster informed the reader that further information as to vaccination and smallpox is contained in a supplement to the creed—copies obtainable on the premises. The clerk of the lodging house was well supplied with the supplement circular.

The supplement circular in the form of a four-page folder, 4x7 inches, giving facts and figures about vaccination and the reasons for the existence of the creed, was printed, including on one page the vaccination creed, and distributed by the thousands.

The creed poster and supplement were prepared for a specific purpose in Chicago, but they soon found a wider field of usefulness. Other cities and towns made use of them combating smallpox. Railroads applied for and received for their use the poster and supplement. One railroad posted the creed in each of its 1,200 stations. Managers of mining camps in the Rocky Mountains asked for and were supplied with this poster and supplement. In Chicago the circular was much sought after, eagerly read, believed and its teachings heeded by thousands who, without this knowledge, would have remained indifferent or opposed to vaccination.—HEMAN SPALDING, M.D., Chief Medical Inspector Department of Health, Chicago, in *Jour. Amer. Med. Assoc.*

POISONING WITH HYDRASTIS.—Dr. Friedeberg reports a case of severe poisoning with hydrastis. Poisonous doses of hydrastine give rise to tonic muscular spasm comparable to that caused by strychnine; but this result is not necessarily pres-

(Continued on p. xvi)

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(Continued from p. xiv)

ent in poisoning with the fluid extract of the plant. A woman complained of uterine hemorrhage; and a physician to whom she applied ordered her half an ounce of the fluid extract, of which he directed her to take twenty-five drops three times a day. After taking the medicine for two days according to these directions, she perceived no effect from it, and she then took at one dose, in the evening, what there was left of it in the bottle, estimated to be rather more than half the original amount. She immediately felt a sensation of burning in the stomach, and that was followed by nausea, giddiness, and faintness of brief duration. She was very restless during the night, and had severe headache, visual hallucinations, a sense of pressure in the region of the heart, and dyspnea. Toward morning she several times vomited a dull-green, viscid fluid. The author saw her at about noon on the following day. At that time her face was pale, her lips were slightly cyanotic, and she was very much prostrated. She was shivering, her voice was feeble, her tongue was coated, and her temperature was 97°F. The respiration was superficial; the pulse was 46, weak and irregular; and the cardiac sounds were feeble, with a slight hum over the aorta. The lungs were normal. The reflexes were present in the pupils, which were dilated, reacted to light. The urine was normal. Friedeberg injected a dram and a half of camphorated oil, one to four (subcutaneously, it is to be presumed), and ordered an enema of warm water, also plenty of warm bed covers and strong coffee and Hungarian wine. In the evening the feebleness was less pronounced, the pulse was 60 and regular, the temperature was 98.4°, the breathing was deeper, and there was slight diarrhea. The uterine hemorrhage was unchanged, and the patient confessed that she had aborted after missing one menstruation. On the following day the woman was still better, but remained somewhat anemic; the uterus was curetted. On the fifth day she was discharged, being then quite well. Instances of poisoning with hydrastis are not frequently encountered, and on this account reports of individual cases are of all the more interest. Friedeberg's case serves him as a text for the remark that one should avoid ordering an unnecessarily large amount of such a drug, since its good effects, if they are to occur, will be manifested within a short time, and if they are not exerted, a change of treatment is desirable.—*New York Med. Journal*.

THE HEAVEN-BORN PATIENT.—He was unfailingly cheerful. His philosophy was of the sort that always sees the turnings in the long lanes, the silver linings in the dark clouds; there was something infectious about his unfailing brightness. The ward seemed a different place after he was admitted to it. He had a cheery word for everyone, and yet he was almost always in pain—sometimes severe pain.

"There's others worse than me," he used to say. "I can grin and bear it. I was always one to grin."

Yes! There was the thing in a nutshell. He was always "one to grin." Never was a patient more considerate for those who were nursing him; he seemed to try only to ask for things at the most convenient times, and if the ward was very heavy, and everyone extra busy, he would lie and wait patiently rather than add to the general rush.

He was not like some patients who seem to choose the very busiest moment to ask for a drink, or who wait until the nurse has just sat down to roll bandages, before calling from the other end

of the ward. He was more often than not reproached for not asking for a thing directly he wanted it, and his answer was always the same.

"Why nurse o' course I wan't goin' to trouble you just when you'd sat down, you've enough to do with your feet as it is. Bless you, I could wait!"

He was a most contented soul, and grateful for every tiny kindness shown to him.

"Nobody don't say nothin' 'gin 'orsepitals when I'm about," he said, "they're fair beautiful; and them as looks after yer in 'em is more kind than you could ever imagine."

A grumbling neighbor in the next bed growled out that the nurses was paid, and 'orsepitals was just run for the good o' the stoo'dents and he didn't see no nothin' much in them to be so grateful for.

"Don't yer now?" and our Heaven-born patient looked round contemptuously. "Nurses paid, indeed; d'yer think any pay makes up for the work they're doin'?" Talk a lot o' rubbish about 'orsepitals bein' for the stoo'dents, why 'ow much do you and me pay for all as is done for us? Strikes me the least as we can do is to let the stoo'dents learn off of us. And ain't what the stoo'dents learns off of us goin' to make 'em good doctors for everybody? I'm willin' enough as they should learn all they can off o' me. It's the least we can do in return for all as is done for us 'ere."

He never made a fuss over anything, and he was the most philosophical creature imaginable.

"Life ain't long enough to be always a grizzlin' over it," he said; "take things as they come that's my motto, whether they hurt or whether they don't—take 'em as they come and make the best of 'em."

When he was too tired to do anything, he lay watching the busy life of the ward, beaming upon us all. It was a pleasure to pass his bed and see that cheery smile. When in the long night watches he could not sleep, he never grumbled. "I've been a jolly healthy sort o' feller all my life," he said, "it's only fair as I should have my bit of a turn at bein' took bad. 'Tis all in the day's work, ain't it, nuss—things ain't goin' to be beer and skittles like; there's always a summat—and if you take it right way up 'tis a good summat for yer in the end!"

He was indeed a Heaven-born patient.—*The Hospital*.

THE FINGER NAILS AS A MEDIUM FOR THE TRANSMISSION OF TUBERCULOSIS.—It is now universally admitted that much can be done in the treatment of tuberculosis by hygienic measures and improvement of the general nutrition; but it is a self-evident fact that if this disease is measurably to be suppressed such a result must be attained through preventive measures. For the successful application of the latter it is essential that the channels of communication should be known, in order that they may be effectively closed and the dissemination of the infection thereby controlled. In accordance with current conceptions, the disease can no longer be considered hereditary. In the exceptional instances of congenital tuberculosis, in which transmission occurs from either parent to the fetus, the mode of infection is precisely the same as during extrauterine existence, except that instead of occurring through the intermediation of the air, water, or food, the conveyance is more direct, through the blood and lymph, or through cellular implantation. After birth the principal source of infection resides in association with others suffering from the disease. An additional danger is encountered when the child

(Continued on p. xviii)

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(Continued from p. xvi)

is able to crawl and creep, in conjunction with the bad habit so common among children of introducing all sorts of things, including the hands, into the mouth. Tubercle bacilli have repeatedly been found in the dust of rooms and corridors, especially in houses occupied by tuberculous persons, and Drs. Kornel Preisich and Alader Schütz, adduce evidence to show that the same microorganisms can often be demonstrated in the dirt obtained from beneath the fingernails of children, whence they become a source of danger. The observations were made upon children from six months to two years of age for a period of two and one-half months, during which they were kept indoors a good deal. The dirt from the fingernails was rubbed upon a sterile glass slide with a drop of sterile bouillon and the resulting emulsion was spread on the slide and was used in part for subcutaneous injection in guinea-pigs. Great importance was attached in advance to the result of the inoculation, but it was soon found that a number of the animals died shortly afterward as a result of acute infection. Accordingly, reliance had to be placed principally on the results of staining, as it also developed that the number of tubercle bacilli in the dirt was insufficient for successful inoculation. Sixty-six cases were thus examined, and positive results obtained in twenty-four—21.4 per cent. Of the successful cases there was no history of tuberculosis in five; in two there was a predisposition to the disease, and in one merely a suspicion thereof; in two there was a family or a house history of tuberculosis; in four suppurating bone disease was present. Among the fifty-two unsuccessful cases there was no history of tuberculosis in twenty-five; in five there was a doubtful history, and in seventeen there was a definite history of this character, but in none of these was tuberculosis present in the family at the time. In the remaining five cases tuberculosis existed in the family or in the house.—*Medical Record*.

VIRCHOW AND THE PARASITIC THEORY OF DISEASE.—At this time, when the whole scientific world is ringing with the praises of the mighty pathologist just dead, it is in a high degree fitting to chronicle, or, rather, to call to mind his views on parasitism and infection. Virchow accepted the principle that infectious diseases are of parasitic origin, but he was not an ardent supporter of the parasitic theory of disease, and was opposed to the opinions now held by many that all diseases are of parasitic origin.

When the great German scientist delivered the Huxley lecture at Charing Hospital Medical School on October 3, 1898, he thus defined his attitude with regard to parasitism and infection. The following are his own words: "With regard to the subject of parasitism, the progress of scientific observation was retarded for centuries by the prevalence of the assumption made by Paracelsus that disease in general was to be regarded as a parasite. Pushed to its logical conclusion, this view would imply that each independent living part of the organism would act as a parasite relatively to the others. The true conception of a parasite implies its harmfulness to its host. The larger animal parasites have been longest known, but it is not so many years since their life history has been completely ascertained, and the nature of their cysts explained, while an alternation of generations has been discovered in those which are apparently sexless. Very much more recent is the detection of the parasitic protozoa, by which the occurrence of the tropical fevers may be ex-

plained. As yet we have not complete knowledge as to their life history, but we hold the end of the chain by which this knowledge can be attained. The élite of the infectious diseases are, however, the work of the minutest kind of parasitic plants, bacteria, the scientific study of which may be said to date from Pasteur's immortal researches upon putrefaction and fermentation. The observation of microbes under exact experimental conditions, and the chemical investigation of their products opened up the modern field of bacteriology, a science among the early triumphs of which were the discoveries of the bacilli of tubercle and Asiatic cholera by Robert Koch. In connection with this subject three important landmarks require comment. One is the necessity for distinguishing between the cause and the essential nature of infectious diseases, the latter of which is determined by the reaction of the tissue and organs to microbes. Secondly, there is the relation between the smaller parasites and the diseases determined by them. This may be summed up in the general word 'infection.' But to assume that all infections result from the action of bacteria, is to go beyond the domain of present knowledge, and probably to retard further progress. The third point is the question as to the mode of action of infection. It is only the larger parasites whose main effect is the devouring of parts of their hosts; the smaller act mainly by the secretion of virulent poisons."

From a consideration of the foregoing, it will be observed that Virchow was of the opinion that it was premature to assume that all infections are of bacterial origin.—*Med. Rec.*

MEDICINE FOR "WORKING" PEOPLE.—"Ohio produced one of the wittiest physicians this country ever knew," said Congressman Shattuck recently. "He lived at a small place near Cleveland, and was greatly liked. His practice was large, and sometimes people would tell him that they called him in more for the fun that was in it than the medicine. His wit was fully equal to his skill. It was hard to say which did his patients the most good, and as he always gave his best of both at the same time, they probably helped each other. Just as it happened when one of his patients revolted at a monstrous dose of physic and said, 'Why, doctor, you can't mean such a dose as this for a gentleman?' 'Oh, no,' said the doctor, 'it's for working people.'"—*Med. Standard*.

BENEFICENT DISEASE.—In addressing the students at University College, Liverpool, Sir Frederick Treves made a point by insisting that we can no longer, after the manner of our forefathers, regard disease as an evil influence distinct from all natural processes and having nothing beneficent in any of its manifestations. The old physicians regarded every symptom of disease as being of necessity wholly noxious and as needing to be stamped out. If the patient vomited, the vomiting must be stopped; if he coughed, the cough must be made to cease; if he failed to take food, he must be made to eat. To the modern physician, however, things appear in a very different manner. To them there is nothing preternatural about disease. Not only is it the outcome of natural processes, but these processes are themselves, in many cases, marked by a purpose, and that purpose a beneficent one. The time has come when it would rather appear that many of the so-called symptoms of disease are but expressions of a natural effort towards cure, that they are not malign in intent but have for their end the ridding of the body of the very troubles which they are supposed to represent. Take, for example,

tuberculosis. Modern pathology teaches that the so-called symptoms of this disease do but represent a valiant attempt on the part of the body to repair an accident, such accident being the entrance of a parasite into the tissues. Take, again, an inflammation following a septic wound of a finger. The disease, so called, is distressing enough, but the manifestations are no mere outcome of a malign purpose. They are well intended, and have for their object the protection of the body from further parasitic invasion and the elimination of such septic matter as may have been already introduced; and so on. Even the much-dreaded peritonitis, which to surgeons of the past appeared as the very hand of fate—an impending horror spreading only disaster and death—is now recognized as the operating surgeon's best friend. Times have changed; our views have altered; and we must no longer "fight" disease in the old manner, nor "attack" it with the old weapons.—*Hospital*.

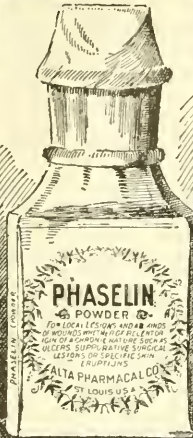
INFLUENCE OF AIR ON THE SENSE OF SMELL.—The sense of smell is undoubtedly much more keen in fresh energizing air than in stale or polluted air. A pipe of tobacco when smoked in the open fresh air, and particularly on a bright day with a sharp easterly wind blowing, is peculiarly fragrant; the effect is enhanced by ozone and tobacco smoke in the presence of static electrical apparatus develops a very agreeable aroma. It is well known, again, that persons in a crowded room are oblivious of the foulness of the air until they go outside and come in again. A person entering the room from the fresh air outside at once complains of stuffiness. There would seem to be a subtle connection between an abundance of air and the sense of smell. A trace of scent is agreeable, an excess is sickly, some scents or flavorings being positively nauseating when in the highly concentrated state. The artificial oil of jargonelle in bulk smells more like garlic than the jargonelle pear; but a mere trace of the oil diffused in the air gives a smell indistinguishable from that of the fruit. The offensive smell of sulphuretted hydrogen is more marked when the gas is freely diluted with air than when it is not so diluted. The pure gas seems to possess hardly any perceptible rotten-egg smell at all, but a sweetish odor not unlike that of chloroform vapor. These observations would tend to show that smell is in some way connected with the presence of oxygen, and that in the absence of this element odor is no longer perceived. In an atmosphere free from oxygen it is just possible that odors would not be observed, and it is probable that the smell of a substance is due to a change brought about in that substance by contact with oxygen.—*Lancet*.

THE ORIGIN OF THE ILL HEALTH OF SOME FAMOUS MEN.—It is a peculiar fact that the letters and other writings of DeQuincey, Carlyle, Darwin, Huxley and Browning, liberal as they are with references to the continued ill-health of those great writers, have not before this suggested to the medical profession an opportunity for research into the causal factors of those physical conditions. That the opportunity has not until now been recognized in its proper light is evidenced by the hitherto total absence of any work dealing with this subject. Dr. George M. Gould's "Biographic Clinics" (P. Blakiston's Son & Co., Philadelphia), which is devoted to this neglected subject, should, therefore, prove a most unique and valuable contribution to biographical and medical literature. The work is announced for publication in December. Dr. Gould has gathered

from the biographies, writings, and letters of the five named men every reference to their ill-health, and the conclusion reached by him, from logic and from a careful summary of the clinical symptoms, is that each of the writers suffered from eye-strain, and that scientific correction of their ametropia would have transformed their lives of misery into lives of happiness. A history of the discovery of astigmatism and eye-strain, with a discussion of its indications and responsibilities, completes the work.

THE NEED OF AN AMERICAN "D.P.H."—The need of an American "D.P.H." is pressing; whether public funds are or are not provided for the purpose, it is high time for the introduction of comprehensive courses of instruction in state medicine. In the near future, departments of health, national and local, will compare in importance and dignity with any governmental agency for the promotion of the general welfare. The progressive application of the ever widening principles of sanitary science demands training which our medical schools do not now provide. In England the candidate for "D.P.H." is instructed in the statute laws relating to public health, and he becomes familiar with the adulterations and contaminations of food, as well as with the means for their detection. He studies water-supplies and their regulation; the principles of hospital, dwelling and factory construction, ventilation, drainage and sewerage; the problems of school hygiene, trade nuisances, the diseases of animals in relation to the health of man, methods of dealing with epidemic contagious diseases, meteorology and vital statistics. The mere enumeration of these branches of instruction suffices to make evident our own need. The functions of the modern board of health are legislative, judicial and executive. Not all branches of sanitary work demand medical training, but for many such training is indispensable. It is a mistake, however, to suppose that the control of departments of sanitation will remain generally in the hands of physicians without any effort on the part of the profession to retain such control. The education of the physician furnishes the best foundation for such work, but it must not be forgotten that the engineer, the chemist, the bacteriologist, are also in the field. In large centers of population the cooperation of these experts is necessary. They, no less than physicians, are men of general education and broad ideas, and their claims to leadership will command increasing respect if superior technical training is not made available for their medical rivals. The training of non-physicians in state medicine is not superior to that of physicians, but it is not greatly inferior. While our opponents have not much to boast of, they gain in strength because of our weakness. Medical schools must bestir themselves. If an American medical "D.P.H." is not soon provided the profession will find an important class of public positions slipping from its grasp.—*Med. News*.

DIETETIC VALUE OF POTATOES.—Potatoes should perhaps be mentioned next to bread in importance as a food substance. They are deficient in albumin, however, though easily digested when in proper condition and cooked properly. Baking is the best method of cooking potatoes. The addition of meat, and even of eggs, to a diet into which bread enters largely, is certain to introduce an excess of albumin. When eggs or other highly albuminous foods are used, a portion of the bread should be replaced by potatoes, in which albumin is deficient, thus preserving the natural balance.—*Good Health*.



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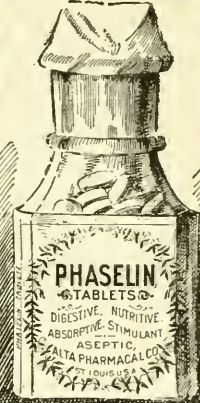
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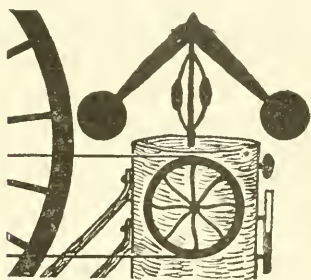
**Removing the Bad Taste of
Medicines.**

THE MOUTH should have careful and constant attention to counteract the ill effects of prepared foods. Animals living on raw foods do not have diseased gums, decayed teeth or indigestion. "Vegetol" dentifrice cleanses perfectly without injury, and by frequent use restores the saliva to a protective alkaline state, like that of animals. Removes sordes.

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A "GOVERNOR"

ACTS UPON A

STEAM ENGINE JUST AS

ARSENAURO ACTS

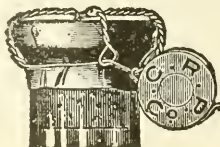
**UPON HUMAN MACHINERY, RESTORES
AND MAINTAINS THE EQUILIBRIUM.**

ARSENAURO IS OF GREAT VALUE IN FUNCTIONAL NEUROSES,
DISTURBED METABOLISM AND FAULTY NUTRITION.

IT ARRESTS THE PROCESS OF DEGENERATION AS COVERED BY
THE BROAD TERM **SCLEROSIS.**

AN ALTERNATIVE WHICH "BUILDS UP" WHILE IT "ELIMINATES."

PUSH TO THE POINT OF SATURATION IN EACH INDIVIDUAL PATIENT AND ADMINISTER FOR A PROTRACTED PERIOD.



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THE ideal safe family laxative, known as—**SYRUP OF FIGS**—is a product of the California Fig Syrup Co., and derives its laxative principles from senna, made pleasant to the taste and more acceptable to the stomach, by being combined with pleasant aromatic syrups and the juice of figs. It is recommended by many of the most eminent physicians, and used by millions of families with entire satisfaction. It has gained its great reputation with the medical profession by reason of the acknowledged skill and care exercised by the California Fig Syrup Co. in securing the laxative principles of the senna by an original method of its own, and presenting them in the best and most convenient form. The California Fig Syrup Co. has special facilities for commanding the choicest qualities of Alexandria senna, and its chemists devote their entire attention to the manufacture of the one product. The name—Syrup of Figs—means to the medical profession "the family laxative, manufactured by the California Fig Syrup Co.," and the name of the Company is a guarantee of the excellence of its product. Informed of the above facts, the careful physician will know how to prevent the dispensing of worthless imitations when he recommends or prescribes the original and genuine—Syrup of Figs. It is well known to physicians that—Syrup of Figs—is a *simple, safe, and reliable* laxative, which does not irritate or debilitate the organs on which it acts, and, being pleasant to the taste, it is especially adapted to ladies and children, although generally applicable in all cases. Special investigation of the profession invited.

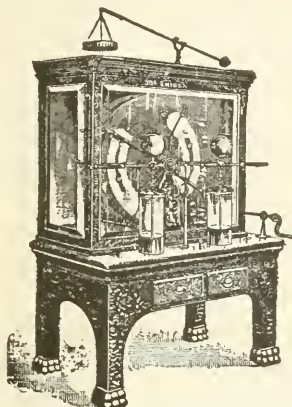
SYRUP OF FIGS—IS NEVER SOLD IN BULK. IT RETAILS AT FIFTY CENTS PER BOTTLE, AND THE NAME—SYRUP OF FIGS,—AS WELL AS THE NAME OF THE CALIFORNIA FIG SYRUP CO., IS PRINTED ON THE WRAPPERS AND LABELS OF EVERY BOTTLE

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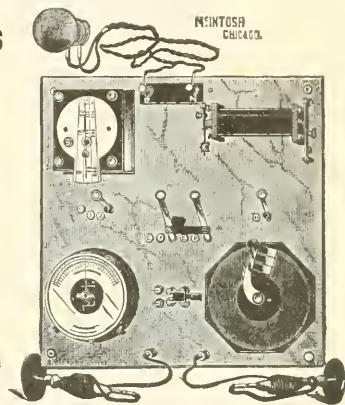
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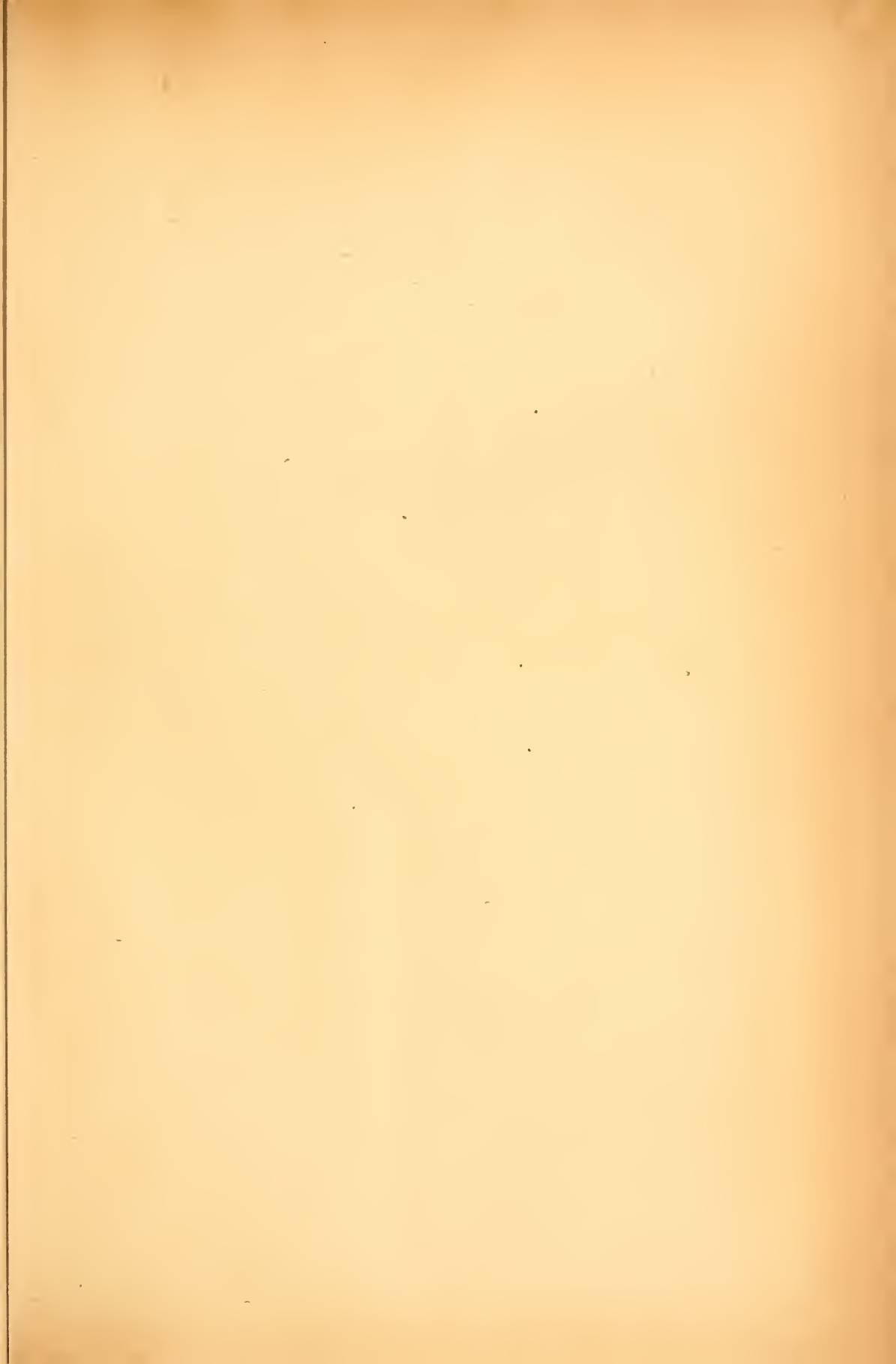
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